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ABSTRACT

This report describes an investigation of theory and research relevant to the development of program I: Specialist in Continuing Education (SCE), a program to train teacher educators who will work with inservice teachers in small groups to improve their professional skills. The major portion of the report consists of position papers written by six consultants on different aspects of the program. Titles are 1) "Instructional Objectives in the Changing of Professional Behavior," 2) "Feedback Theory as It Relates to Changing Teacher Behavior," 3) "Self Confrontation of Teachers," 4) "Change Agent Strategies in Perspective," 5) "An Analysis of Group Support and Helping Structures," 6) "Reward Structures." These papers were used in a consultants' conference which employed a modified Delphi process to identify the program's major weaknesses or difficulties and its potential strengths. A recurrent theme in the papers and the conference was the institutionalization of the role of the SCE in an educational organization. The final section of the report explores issues related to the development, implementation, and institutionalization of the new role. (SP 004 952 describes the SCE training program.) (RT)

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CONCEPTUAL BASE OF PROGRAM I:

SPECIALIST IN CONTINUING EDUCATION (SCE)

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CONSULTANTS' ASSESSMENT

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PREFACE

This report describes an investigation of theory and research relevant to the development of Program I: Specialist in Continuing Education (SCE). Exploratory developmental work had delineated major areas of concern with which this report deals in depth. With this perspective, further developmental work in the role of the SCE can be viably accomplished within a sound conceptual framework.

Thirteen authorities familiar with Program I recommended consultants in each program area and among those recommended CERLI selected six recognized authorities who were willing to contribute to the conceptual base of Program I. Each consultant was personally briefed on the SCE's role and Program I's objectives. Each agreed to provide a comprehensive review of relevant theory and research in his area and a bibliography of basic resources. In reviewing the literature, each consultant agreed to focus on the objectives of Program I.

Using a modified Delphi process, each member of the investigative panel prepared a working copy of his position paper which CERLI sent to at least two of the other consultants for critical review. These reviews and CERLI staff members' critiques then were submitted to the consultant for consideration as he prepared his final draft.

In final form, these position papers generated the agenda for a two-day conference in Chicago. In those sessions (synthesized in this report), consultants had an opportunity to orally interact; clarify, elaborate and integrate their respective inputs; and thus implement the purposes of the conference: to relate each topic to the total program and to identify the program's major weaknesses or difficulties and its potential strengths.

Among the problems cited in the papers and at the conference was the recurrent theme--the institutionalization of the role of the SCE in an educational organization. The final section of this report presents an attempt to explore some of the issues concerning the development of a new role, its entry into an organization, and the permanent institutionalization of that role.

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INTRODUCTION to PROGRAM I

By Albert L. Furbay

Senior Program Associate-CERLI

Innovations in education all have one common objective, namely a better education for students. Many innovations are directed toward the pupils' learning experiences in terms of new curricula and instructional technology. However, one of the most significant influences which operate in the instructional environment of a learner is the behavior of the teacher.[1] Hence CERLI has chosen teacher behavior--rather than learner behavior--as the primary target of Program I.

CERLI envisions the development of a new personnel role, the Specialist in Continuing Education (SCE), and the institutionalization of this role within educational systems such as school districts or colleges of education. The development of a training system consisting of resources to be employed by a user agency in conducting training programs has been Program I's mission.

The SCE works closely with small groups of teachers or other professionals in self-assessment seminars. The seminar focuses upon the immediate and unique problems that participants face on the job. Teachers are encouraged to assess relevant data for themselves and thus to become students of their own teaching behavior. In this manner they seek their own solutions to their problems. The emphasis is upon self-assessment as an alternative to expert assessment by authorities in or out of the school organization. A peer relationship between SCE and teacher appears to be a more powerful vehicle for learning new behavior than an authoritative or evaluative relationship.[2]

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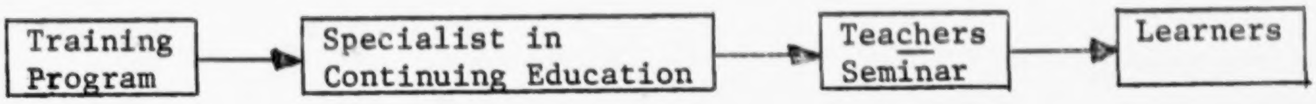
[1] Edmund J. Amidon and John B. Hough, eds., Interaction Analysis: Research and Application, "Classroom Interaction and the Facilitation of Learning: The Source of Instructional Theory," John B. Hough, Addison-Wesley, Reading, Mass., 1967, p. 376.

Self-direction in learning produces more significant and more lasting changes in professional behavior than externally imposed changes.[3] According to the pre-suppositions of McGregor's Theory Y,[4] the SCE could be a direct supervisor of teachers in the seminar. Having determined the competence and compatibility of his subordinates, he then would supervise by encouraging his subordinates to establish their own goals, assess their own progress toward the achievement of those goals, set new goals, try new behaviors, etc. In a more traditional organization (Theory X), the peer relationship of the SCE might best be achieved through a staff position. Therefore the diagram in Figure 1 illustrates this relationship by a horizontal rather than a vertical line.

FIGURE 1



The behaviors of SCE, teacher, and learner are viewed in a sequence of causal events. Program I focuses primarily upon the behavior of teachers who, in turn, influence the learning behavior of pupils. The SCE's training program should, of course, enable him to conduct self-assessment seminars successfully.

Seven elements are considered important to the successful handling of self-assessment seminars. Four of these elements concern a basic process of self-assessment conducted by the SCE in the seminar. Three additional considerations are important to the context within which the seminars are organized.

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[2] Carl Rogers, On Becoming a Person, Houghton Mifflin, Boston, Mass., 1961, pp. 31-57.

[3] Ronald Lippitt, et al., The Dynamics of Planned Change, Harcourt, Brace and World, New York, 1958, p. 197.

[4] Douglas McGregor, The Human Side of Enterprise, McGraw-Hill, New York, 1960.

Instructional Objectives. At the outset, the SCE is concerned with helping teachers to develop and define their own professional goals in operational terms.[5] Innovations in professional behavior are more likely to be adopted when relevant to the achievement of goals.[6,7] Therefore it is important for a teacher to be able to identify possible goals, select or define goals, evaluate the degree to which they are relevant and realistic, operationalize them in behavioral terms, and accept the goals. The process of self-assessment is more relevant when goals are defined in operational (behavioral) terms.[8] If goals remain general and vague, it is difficult for a teacher to determine the degree to which those goals are achieved.

Feedback Data. In the classroom, the seminar participant practices behaviors which are relevant to the achievement of her objectives. Furthermore, goals may be generated from a gap between ideal performance and actual practice. Therefore the process of self-assessment depends upon collecting concrete data concerning what is actually happening in the classroom.[9,10]

When the teacher is viewed as a learning system, a cybernetic principle is implicit in the complete cycle of self-assessment activities. Probably it is unnecessary to include all of the ramifications of research design or to restrict a seminar to the utilization of a particular system of feedback. The SCE encourages teachers to attach value to data as opposed to inferences, select or invent appropriate methods for collecting data, collect concrete data about the degree to which professional goals have been achieved, tabulate and analyze the results, interpret the relevance and meaning of the data, and accept and utilize data which are fed back to them.

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[5] Robert F. Mager, Preparing Instructional Objectives, Fearon Publishers, Palo Alto, Calif., 1962.

[6] Richard I. Miller, ed., Perspectives on Educational Change, "The Teacher as Innovator, Seeker, and Sharer of New Practices," Ronald Lippitt, pp. 317-18.

[7] Martin Haberman, "Behavioral Objectives: Bandwagon or Breakthrough," The Journal of Teacher Education, XIX: 1, Spring, 1968, p. 92.

[8] Ibid.

[9] Edgar H. Schein and Warren G. Bennis, Personal and Organizational Change Through Group Methods, John Wiley and Sons, New York, 1965, pp. 41-43.

[10] N. L. Gage, et al., Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers, Bureau of Educational Research, University of Illinois, 1960.

Some programs have developed elaborate methods for feeding data back to teachers through external observers. CERLI is equally interested in the possibility of getting teachers to independently design and utilize their own feedback systems. In a seminar it is one thing for an "observer" to give data to a teacher, but it is quite a different matter for a teacher to share data about herself with the other members of the seminar.

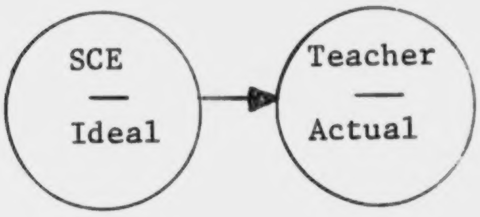
When instructional objectives are set in behavioral terms, concrete data are easier to collect. Hard data are of more value than general feedback which consists merely of subjective impressions, attitudes, and feelings about what is or is not happening in the classroom.[11]

A problem consists in the difference between what should be and what is. In other words, the ideal minus the actual equals the problem. At this point in the self-assessment process, the relationship between ideal and actual is defined in rather precise terms, and thus becomes easier to discuss with openness and candor. When the actual matches the ideal, this correspondence serves as reinforcement. On the other hand, when the teacher perceives a significant discrepancy between ideal and actual he experiences cognitive dissonance which becomes an important factor in motivating change.[12]

Self-confrontation. The process of self-confrontation lies at the very heart of the self-assessment seminar. Teachers often are painfully aware that there is a wide discrepancy between what they want to do and what they actually do. Frequently this awareness comes in the form of an external confrontation between the teacher and another person. However, the SCE attempts to design self-confrontation experiences which are intrapersonal in nature, located within the teacher's own experience.

There are at least two ways to structure the relationship between the SCE and the teacher in the seminar, based on the theory of self-confrontation.

FIGURE 2



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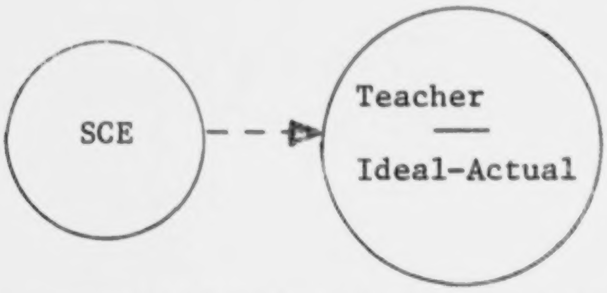
[11] Ibid.

[12] Leon Festinger, A Theory of Cognitive Dissonance, Row, Peterson and Company, New York, 1957, pp. 18, 177.

In the first relationship (Figure 2), the SCE represents the ideal behavior toward which seminar participants ought to strive. Teachers then represent actual behavior, derived from their own classroom practice. This relationship is characteristic of the traditional master teacher or curriculum consultant. Hence, if there is a discrepancy between the ideal and the actual, the conflict is inter-personal (between SCE and teacher). Another variation of this relationship would be to accept the teacher's statement of her own ideal behavior but to confront her with data collected by the SCE or another external observer.

FIGURE 3



In the second relationship (Figure 3), the teacher begins with her own statement of ideal behavior and compares it with her own data which describe actual behavior. The SCE's role is to promote this internal comparison within the teacher. Furthermore, the teacher may be the one who presents both her operationalized goals and her concrete data to the group seminar. Hence if there is a conflict between the ideal and the actual, there need not be a conflict between the teacher and the SCE or other members of the seminar. The conflict is internalized within the teacher. An intra-personal process of self-confrontation can be expected to yield greater clarity in problem analysis as well as motivation to implement solutions to problems.

The SCE encourages the process of self-confrontation by helping teachers to compare operational goals with feedback data, identify and confront inconsistencies between ideal and actual, and resolve differences.[13,14]

At this point in the process of self-assessment, there are several alternative courses of action open to the seminar participant:

(1) She may reject her goals as unrealistic, unattainable, or worthless.

(2) She may reject the data as unreliable, invalid, or meaningless.

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[13] Ibid.

[14] Wilbur Schramm, ed., The Science of Human Communication, "The Theory of Cognitive Dissonance," Leon Festinger, Basic Books, New York, 1963, pp. 17-27.

(3) She may assume that her ideal-actual discrepancy is typical for most teachers and therefore less important.
(4) She may reject the process of self-confrontation itself.

Even though all these reactions may be appropriate, often they represent an escape from dealing with the ideal-actual relationship. Escape from the field--either physical or psychological--is a simple way to avoid the discomfort of the discrepancy between the ideal and the actual. These reactions typically become escape mechanisms in the first relationship, in which conflict is externalized. When conflict between ideal and actual is internalized, a fifth possibility seems more likely: she may reject her prior classroom practice as inadequate and in turn set new goals or reaffirm previously set goals.

A re-cycling of activities leads to a new statement of instructional objectives, a return to the classroom to collect further data about classroom practice, another self-confrontation, etc. However, educational change does not result from practicing the same behaviors in the classroom again. New resources need to be utilized in the classroom in order to bring about a closer correspondence between goals and data. Thus resource utilization, coupled with classroom practice, becomes the fourth element in the basic process of self-assessment.

Knowledge Utilization. The SCE is concerned not only with getting teachers to look at themselves in more meaningful and relevant terms but also with promoting the diffusion of educational innovations. In this respect he should provide a unique, intermediate linkage between theory and professional practices.[15] The utilization of resources in this sense, implies much more than printed hand-outs, demonstrations of new methodologies, or additional curriculum materials. If relevant innovative strategies reside merely in the research literature and are not incorporated into the teacher's professional behavior, knowledge is not fully utilized.

In the self-assessment seminar, a teacher approaches resources with goal-orientation and therefore increased motivation to accept and implement new behavior. The routine presentation or demonstration of new teaching methods (often during an institute day) may generate immediate interest but not much change in classroom practice.

With an SCE's guidance, teachers may be encouraged to identify relevant educational innovations, evaluate innovations in terms of needs and goals, select appropriate strategies and tactics, implement innovations, and develop confidence in the process of change. Role playing and micro-teaching are two familiar techniques for developing knowledge, attitudes, and skills for improved professional behavior.

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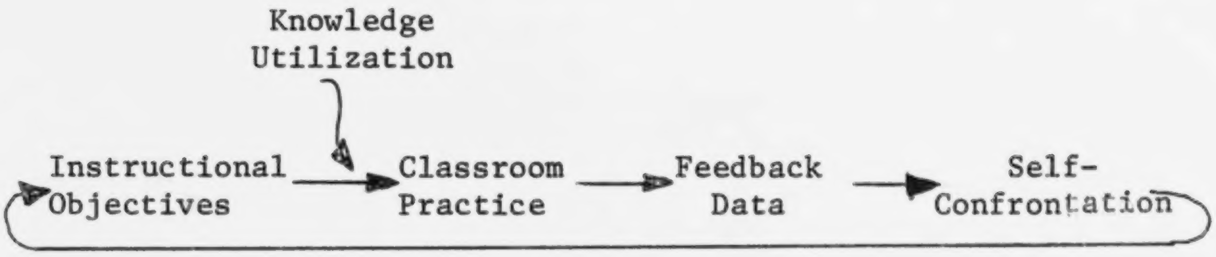
[15] Terry L. Eidell and Joanne M. Kitchel, eds., Knowledge Production and Utilization in Educational Administration, "Dissemination and Translation Roles," Ronald G. Havelock, University Council for Educational Administration, Columbus, Ohio, 1968, pp. 64-65.

FIGURE 4



Four basic processes involved in self-assessment are illustrated in Figure 4. Three additional important considerations affect the success of the seminar. These concerns relate to the context in which self-assessment occurs and the degree of support participants receive in the seminar.

Self-reinforcement. Maintenance of learning depends upon those reward structures which influence each participant in the seminar. If she becomes dependent upon the SCE, self-assessment activities may cease when the series of seminars is terminated. On the other hand, the SCE attempts to create an on-going process of self-development which will continue independently of her direct influence.[16]

The SCE tries to relate to each individual as well as to the seminar group as a whole. Individual members may need personal encouragement to become actively involved in their own self-development, to apply the same principles of autonomy and independence to themselves which they may be recommending for their own learners, to develop habits of self-development which become continuous and self-renewing, and thus achieve their potential for self-actualization.

Small Group Support. Change is more likely to occur and be reinforced in the social context of small groups than on an individual basis alone.[17,18] Furthermore, the small group seminar may function as a sub-system to reduce tensions arising from the demands of a larger system (eg., school district).

A seminar is a task-oriented small group which meets to engage in self-assessment activities and problem solving. It is unnecessary for the SCE to be an expert in group dynamics in the most inclusive sense of that term. However, he seeks to build a strong cohesive group which is able to support and encourage its members so that they will assist one another in the process of self-assessment and initiating change, offer cognitive input, give and receive help, and provide reinforcement to other members.

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[16] Carl I. Hovland, et al., Communication and Persuasion, "Retention of Opinion Change," Yale University Press, New Haven, 1953, pp. 241-68.

[17] Festinger, Cognitive Dissonance, pp. 208-09.

[18] Lippitt, "The Teacher as Innovator, Seeker, and Sharer of New Practices," p. 308.

Organizational Institutionalization. Finally, it is important to examine the organizational setting in which a seminar occurs. A successful program of self-assessment seminars depends upon the reward structures of the total organization. Approval and support ought to be based on more than the allocation of funds from special governmental sources. The program must be viewed as a permanent and functional part of the organization.

Significant status should be attached to the role of Specialist in Continuing Education. It is doubtful that an SCE who has been trained to function in this role will be content with a low-status position. Moreover, the role he plays determines his power to bring about educational change. Therefore Program I is concerned with such matters as the creation and definition of a new role, organizational entry, and the diffusion of influence within an organization.

These seven primary areas of investigation seem most relevant to the development of Program I: Specialist in Continuing Education. The training program for a prospective SCE therefore should include instruction in (1) instructional objectives, (2) feedback data, (3) self-confrontation, (4) knowledge utilization, (5) self-reinforcement, (6) small group support, and (7) organizational institutionalization.

POSITION PAPERS

"Instructional Objectives in the Changing of Professional Behavior"

by John D. Mc Neil 10

"Feedback Theory as It Relates to Changing Teacher Behavior"

by Dale G. Lake and Rafael Chodos. 26

"Self-Confrontation of Teachers"

by Richard A. Schmuck 52

"Change Agent Strategies in Perspective"

by W. C. Wolf, Jr.. 79

"An Analysis of Group Support and Helping Structures"

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"Reward Structure"

by Joel Aronoff. 133

INSTRUCTIONAL OBJECTIVES in the CHANGING of PROFESSIONAL BEHAVIOR

By

John D. McNeil

The topic of instructional objectives has come to be considered of critical importance in the design of effective instruction. Much has been written regarding the role and the characteristics of a well-stated objective. Newer emphasis on precisely defining instructional objectives has brought to the fore a number of instructional issues, such as who should formulate instructional objectives, e.g., is the objective (albeit stated in terms of learner behavior) unabashedly that of the instructor? Other related issues center on the basis for validating objectives and the consequences of using them.

The reader of this paper is entitled to a concise review of the rationale for instructional objectives. He should be helped to recognize unresolved issues concerning the use of instructional objectives and be given a way to deal with these issues. Knowing that this description and interpretation of the topic is to be considered as a possible source to use in the planning of a new program which aims at influencing the behavior of teachers, an attempt is made in this paper to illustrate how instructional objectives might be of value to the Specialist in Continuing Education and to the teachers with whom he works.

What is a well-stated instructional objective?

Objectives have long been regarded as statements of intent, indications of the goal which one hopes to attain or the condition which one wants to see effected. Instructional objectives are those where the intent refers to a desired change in a learner by the process of instruction. In his influential booklet, Preparing Instructional Objectives, (1) Mager argued that a well-stated objective is one that succeeds in communicating to others the writer's instructional intent, "It is meaningful to the extent to which it conveys to others what a successful learner will be like." Mager contended that a statement of an instructional objective would be subject to less ambiguity if it has three characteristics:

1. It states the learner's performance or "behavior" as visible activity to be displayed at the end of instruction. This statement of behavior is made with words which require little interpretation, e.g., solving versus understanding. The term understanding cannot be directly observed, hence vague, but one can observe whether or not the learner is solving a problem and solving a problem can be evidence of understanding.

2. It states the selected conditions under which the behavior is expected to occur. That is, the writer of an objective expects the learner to display the desired behavior only in the presence of certain stimuli. These stimuli should be stated.

3. It specifies how well the learner must perform to be considered acceptable. Must the learner behave consistently in the desired fashion, adapting the "right behavior" in the presence of all instances of the class of situations stated in the objective or will it be enough if he behaves correctly in two thirds of the instances? To avoid doubt, the instructional objective should stipulate what constitutes acceptable performance. Similarly, a statement of acceptable performance might include specification of the time within which the behavior must occur.

As defined above, a well-stated objective in the Specialist in Continuing Education (SCE)-teacher relationship might look like the following:

> Given a reading group composed of boys and girls and the presence of an adult observer, the teacher (the teacher is the learner in this case) will give as many opportunities for boys to respond as girls, i.e., call on boys as often as girls. It is expected that the giving of equal opportunities for responding (an indication that the teacher is not showing favoritism toward the sexes) will occur whenever the situation exists, not just once. Further, no exception with the male population will be allowed to occur--all boys will get the same number of opportunities.

Analysis of the foregoing objective shows (1) there is a class of situations, i.e., reading groups with pupils and adult observers, (2) there is an observable behavior on the part of the learner (teacher), i.e., calling on pupils, and (3) there is a standard of acceptable performance, i.e., the teacher must behave on all occasions impartially for each boy, not just average-out opportunities for the population as a whole.

Another way to clarify the qualities of instructional objectives is to distinguish objectives from instructional activities. For instance, the following statements include one objective and two activities:

(1) The teacher (learner) is asked to read three specific research activities showing the effects of prejudicial treatments upon male pupils.

(2) The SCE demonstrates (role plays) three ways in which some teachers ensure against unconscious discrimination toward male pupils.

(3) The teacher (learner) names three ways in which teachers can ensure against unconscious discrimination toward male learners.

Statement One is an activity. It does not specify what observable response the teacher (learner) will be able to display after reading the articles.

Statement Two is not an objective since it indicates what the SCE will do but does not describe what the teacher (learner) will be able to do.

Statement Three is an objective, but its form could be improved by adding a sentence indicating what constitutes an acceptable answer to the question of how teachers ensure against unconscious discrimination. In other words it would help to know what the SCE would look for as the teacher names the three ways. Would any way given be all right or must there be some quality present in the answer given by the teacher?

Why State Objectives in Operational Terms?

Instructional specialists such as Glaser (2) and Gagne (3), contend that well-formed (behavioral) objectives possess an advantage in that they reduce ambiguity. Reduction of ambiguity in turn leads to dividends in connection with the planning of instruction and its evaluation. A precise statement gives cues as to what kind of instructional sequence will prove effective. The less ambiguity, the more readily can one devise procedures to attain the outcome sought. When clear objectives exist, the instructor is able to measure learner's attainment and make inferences about both the learner's performance and the effectiveness of the instruction given. Clear objectives also are useful in judging the quality of the goals themselves for one can see if they are indeed worth teaching in the first place.

Advocates for what are called behavioral objectives are primarily interested in the instructional encounter itself, not with public relations or broad educational policies remote from the classroom. At societal levels, e.g., the Congress and even at institutional levels, e.g., local school board, broad terms may suffice for stating educational directions and for making decisions at such levels. At the classroom level, however, decisions regarding how best to effect a change in the learner requires specification, for what we cannot specify we cannot teach.

There have been several industrial and social psychological studies of individual and group goals which show that one functions better if he is clear as to the expected outcomes (Mager and McCann 4) (Raven 5). Also, there have been a number of studies in education providing data that teaching for specific learner gain produces greater achievement than a comparable procedure that does not have predetermined results as the criterion of teaching effectiveness (Wittrock 6), (McNeil 7), (Moffett 8). Silberman (9), too, has demonstrated the direct benefits from an emphasis upon stating and then attaining behavioral objectives. In his review emphasizing research on learning and instruction, Anderson (10) concluded that one can have reasonable confidence in a process of lesson development that includes operationalizing instructional objectives and then trying and revising methods and materials until these objectives are reached.

Controversy about Behavioral Objectives

Eisner (11) has listed four major complaints regarding the pre-specification of objectives: (1) that we cannot predict with total accuracy all outcomes of any learning sequence, (2) that it may be undesirable to try to specify outcomes from certain experiences, (3) that there is confusion between the practice of using objectives as a standard of measurement and making a subjective judgment regarding the adequacy of the learner's response, and (4) that it may be more efficient to devise rich activities and then analyze what they teach. Atkin (12), and Arnstine (13) have raised other arguments against behavioral objectives. A summary of these arguments and rebuttal to them appears in a paper by Popham (14). In this paper eleven opposing statements are presented and attacked. The following paraphrased outline depicts the content of Popham's paper:

1. Charge. Trivial objectives are the easiest to operationalize, hence really important outcomes will be underemphasized.
   Answer. Explicit objectives make it easier to attend to important outcomes for they permit a teacher and her colleagues to scrutinize and reject those which are unimportant.

2. Charge. Pre-specification of goals prevents taking advantage of unexpected instructional opportunities.
   Answer. Serendipity is welcome but it must be justified in terms of contributing to the learner's attainment of worthwhile objectives--not merely entertainment, diversion, or irrelevant activity.

3. Charge. There are important outcomes besides changes in learners, e.g., parental attitudes.
   Answer. The school's primary responsibility is to its pupils. Modification in personal or external agencies should be justified in terms of their contribution toward the promotion of desired changes in learners.

4. Charge. Measurement is dehumanizing.
   Answer. Evidence is cited showing that measurement does not have to be based on a theory of reductionism.

5. Charge. It is undemocratic to plan in advance how the learner should behave after instruction.
   Answer. To imply that free-wheeling democracy is always present in the classroom is untruthful. Schools are established to promote societal-mandated goals.

6. Charge. Teachers do not specify their goals; so we ought to recognize this fact and live with it.
   Answer. There is a difference between identifying the status quo and applauding it. Teaching at the moment is not good enough.

7. Charge. In some areas it is more difficult to identify measurable learner behavior.
   Answer. Some instructors are reluctant to put their evaluative criteria on the line. They have such criteria--they are making judgments. They should describe their criteria in terms that anyone can see.

8. Charge. Loose statements appear worthwhile. If goals were stated precisely, they would be revealed as innocuous.
   Answer. Much going on in the schools is indefensible. It may be embarrassing to reveal the nature of the behavioral changes we are bringing about. We are obliged to defend our choices.

9. Charge. Measurability implies accountability; teachers might be judged on their ability to produce results in learners rather than on the many bases now used.
   Answer. Teachers should be judged on their ability to bring about change in learners.

10. Charge. It is more difficult to generate precise objectives than to talk about objectives in vague terms.
    Answer. Agree. Teachers are too busy to state objectives. Possible solutions would be to reduce teaching load, help teachers specify objectives, perhaps give the teacher objectives from which to choose rather than to generate his own.

11. Charge. Unanticipated results may be more important, but specified goals may make the evaluator unattentive to them.
    Answer. We should look at both predicted and unforeseen consequences. By initially proposing a comprehensive range of objectives, one might see more than if he relies on assessment after the fact. Pre-planned objectives should be the primary, but not exclusive, focus in evaluating instruction.

Some Ways CERLI Might Deal With the Controversy Over Behavioral Objectives

Within the plan proposed for the Specialist in Continuing Education, the selection of a behavioral objective would be jointly undertaken by the SCE (as teacher) and the teacher (as learner). The fact that the objective is mutually agreed upon as an acceptable target weakens the argument that behavioral objectives are an imposition upon the learner's freedom. Further, there is no reason to make each instructional objective absolute. It is possible, for instance, that during the pursuit of an objective, new data is revealed, i.e., observations are made that suggest a more important objective is in order. By starting with a specific instructional objective, attempting to reach it and making observations of progress toward the objective, SCE and teacher may be able to formulate a better specific objective. "Better" might take the form of identifying a prerequisite behavior which both SCE and teacher had failed to recognize initially.

SCE and teacher need not try to specify all desirable objectives. To specify 1, 2, or 3 objectives considered vital and to work toward their attainment would be a valuable beginning. Such directed efforts would not preclude unplanned changes in the teacher which would have occurred by chance or as the result of "rich" opportunities laid before the teacher by SCE. In short, learning opportunities for which no one is accountable in terms of results (one only hopes that something good will follow) can be present along with activities designed to effect a specific change in the learner teacher and for which SCE and teacher are to be held accountable for attaining.

Most of the controversy over instructional objectives centers on the objectives selected--their value. Are the objectives, like learning activities, to be appraised or to be prized? The specialist in helping teachers develop their own professional goals must face the question of how best to identify appropriate goals.

Identifying Goals

An instructional objective for pupils is formulated when in the presence of some situation or class of situations, the learner does not perform as someone thinks he should or as he himself would like. The gap between one's practice and an ideal performance or norm suggests a desirable change. Since there is an unlimited number of classes of situations from which objectives can be formed, educational institutions usually exclude consideration of all situations except those indicated by institutional policy, e.g., situations drawn from school subjects (reading, math); situations calling for application of common skills of socialization (skills needed for participation in the school itself as well as social skills presumed to reflect the customs of a larger community); and, to some extent, situations with which the pupil himself wants some help, e.g., pursuit of his interests and personal problems. Validation of the instructional objectives occurs by showing that the change produced in school is indeed related to or consistent with some philosophical position, e.g., the objective is related to the role the pupil will assume as an adult, and the objective reflects a behavior and content which is consistent with knowledge as defined by scholars in the discipline concerned, e.g., the pupil should not greet certain physical phenomenon with interpretations rejected by the scientific community.

What does this way to identify goals for pupils have to do with formulating objectives involving a change in the teacher? First, the SCE and the teacher will have to collect data that a deficiency--a gap between the teacher's practice and an ideal exists. Observation of the teacher must be made with respect to some classes of situations--not to all. I would expect these situations to be limited to the classroom, not to the teacher's performance at home, in the community, or even in faculty meetings. The SCE should focus on helping the teacher with his instructional activity of teaching and not attend to the wide variety of institutional acts which are part of the office which a teacher holds. The task of identifying gaps of concern would be more manageable and the objectives formulated would be more justifiable if all situations selected were shown by logic or experiment to be linked to impact on the teacher's pupils. If, for instance, there were agreed-upon instructional objectives for pupils, then SCE and teacher could focus upon those changes in teacher behavior which hold the most promise for effecting the stipulated change sought in pupils.

Can one identify gaps in a teacher's behavior without knowing the changes sought in pupils and without checking out the effect of the teacher by noting whether or not the intended pupil responses occur? As a generalization, there is no unequivocal interpretation about the desirability of any given educational practice. The ratio of teacher-pupil talk, the seating arrangement of the pupils, whether pupils or teacher initiate questions, and the hundreds of observations to be made during a lesson are not to be prized as ends, but must be seen as means to be checked out (appraised) in terms of their effect upon the particular learners in that setting. Any gap identified as a teacher deficiency by the SCE and the teacher must be regarded as a source for a working hypothesis. First, close the gap--acquire the desired competency or practice; second, see if the closing of the gap makes predicted differences in the results as shown by achievement.

Initially, the SCE should, however, determine to what extent a teacher has certain enabling competencies. Examples of these stated in behavioral terms are the following:

1. The teacher will be able to state instructional objectives relevant to his own teaching situation. This objective will display at least two of the three characteristics of operational objectives which are:

    (a) defines the important conditions under which the behavior is to occur.
    (b) identifies the performance to be exhibited by the student.
    (c) indicates a standard of acceptable performance.

2. The teacher should be able to identify what and how evidence will be collected to show that the objective has been reached. (Note: the objective should be extended to reveal prerequisite abilities.) For example,

    (a) ability to match types of measuring devices (e.g., self-report, checklist for product, checklist of learner performance during observation, and objective test) with types of objectives (attitudinal, process, product, cognitive).
    (b) ability to apply sampling techniques in the assessment of his own teaching effectiveness.
    (c) ability to describe at least 5 prerequisites that relate to the pupil's achievement of the given objective.

The above two objectives are necessary to enable the SCE and teacher to identify the goals to be set with respect to desirable teacher change. In order to determine important gaps in teaching behavior, the teacher must first be able to identify the instructional goals held for the pupils. Teaching deficiencies are shown only when the teacher's instructional intents are not valid or when the teacher's valid instructional intents are not being achieved. The teacher does not have valid instructional objectives when his objectives are in conflict with the purpose of the school, knowledge of the subject field and the child's own experiential background. Basic to the identification of deficiencies in teaching behavior then is evidence as to both the instructional intents of the teacher and the extent to which these intents (and other outcomes) are being reached by pupils. This is the reason SCE and the teacher must master the two enabling teaching competencies stated above.

Evidence that the teacher does not possess valid teaching intents indicates a *curricular deficiency*, i.e., that he lacks knowledge of the process for determining *what* to teach (in contrast to the process of determining *how* to teach). Parenthetically, a description of a process by which teachers can formulate valid goals for pupils is found in a monograph by Ralph Tyler (15). The Tyler work would be a good source to SCE and teacher as they seek to identify objectives for the teacher. Essentially Tyler recommends that data be collected regarding society, subject matter, and psychological needs of man. Implications of these data for instruction are then drawn, serving as the basis for formulating instructional objectives. Before the objectives are to be accepted however, Tyler suggests that they pass through both a psychological and a philosophical screen. The psychological screen consists of knowledge from psychology which leads one to infer that a given objective has a high probability of being attained under the conditions which can be arranged. The philosophical screen consists of a number of questions such as whether the school should prepare one for life as it is or life as it should be. Only those objectives which pass both screens are considered valid. Acquisition of Tyler's recommended process might be a general goal from which the teacher could formulate specific objectives for himself. As an instance of a curricular deficiency and the suggested remedial treatment, imagine a teacher's instructional objective for pupils that stresses mathematics as rote memorization rather than as a process of logic. Consequently, the SCE and teacher might formulate an objective for the teacher that would strengthen the teacher's mathematical knowledge. It can be argued that one cannot teach essentials of a field when he himself cannot identify these essentials and probably cannot teach others to perform when he (the teacher) cannot demonstrate the desired performance.*

Evidence that the teacher has valid intents but is not achieving them indicates an instructional deficiency; that is, the teacher is not selecting, presenting, or ordering instructional sequences appropriately. Clues as to what changes might be helpful are found through observation and analysis of the teacher and pupil interactions during instructional episodes. Basic to the conduct of an observation is the ability to differentiate facts (observations) from inferences. Therefore, an enabling objective for SCE and the teacher might be:

> The teacher will be able to differentiate observations from inferences in instructional settings. (A standard of acceptable performance for this objective would have to be established.)

The making of an observation requires other competencies: the ability to record verbal commentary made by pupils and teacher or the ability to collect data using portable videotape equipment. Sometimes observations are focussed on specified aspects of instruction, e.g., recording only instances of pupil analogous practice of the lesson's objectives, i.e. that practice which is not identical to but relevant to the objective. When the lesson is not lengthy, it is considered better to collect as much data as possible, making as complete a record of visual and verbal events as circumstances allow. After the record is made, one then analyzes the data in terms of the instructional variables he believes to be relevant to the objectives sought.

Numerous schemes exist for the making of such analyses (Flanders 16), (Hughes 17), (Pi Lambda Theta 18). Students of instruction have looked at teacher performance using linguistic categories, i.e., teacher's use of prepositional phrases, personal references (I), conditional words (but, however), explaining links (because, therefore). In some instances, this kind of analysis has been helpful. Pupils have performed better on certain tasks after their teacher changed his behavior to include, for instance, explaining links.

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*Note: It is true that one can present opportunities by which some learners who because of their heredity or previous experience effect desirable changes without instruction. The presenting of opportunities without instruction is considered influence by a teacher but it is not teaching, i.e., accepting responsibility for and changing the learner's behavior in some specified direction.

Other analyses have been made in terms of presentational categories. Does the teacher follow a pattern of stating a principle, giving examples, and restating the principle? How many examples are given? Are negative instances included? Is there mastery on the part of learners before moving on? Unfortunately the logical relation of the presentational variable to the objective sought for pupils is not always considered. For example, if the objective calls for a child becoming resistant to certain future persuasive efforts on a given theme as opposed to his becoming persuaded immediately on the value of that theme, the presentational variables might differ. It is hypothesized that the use of two-sided argument is more effective for the former objective, but one-sided argument more effective for the latter. Also, a teacher who is interested in changing the conduct of pupils in the interest of classroom order might gain from an analysis of his instruction in terms of variables from group dynamics theory, e.g., teacher support of pupils of high status, sensitivity to pupils' view of teacher role, judicious use of group cohesiveness, linkage of pupil and system goals, etc. Incidents that can be categorized as verbally hostile (sarcasm), expanding student's ideas, praise, reproof, and the like, often form part of an analysis designed to suggest behavioral change in the teacher that may enhance pupil performance.

The reader is reminded that the present purpose for mentioning schemes for analyzing instruction and for indicating some of the many instructional variables is that they are useful in directing attention of the SCE and teacher to changes which might be effected in the teacher's behavior. Conclusions to be drawn are that some variables are more worth attending to than others. Powerful variables are those associated with whether or not the teacher gives knowledge of results to pupils and whether or not pupils have opportunity to practice the behavior called for in the instructional objective. These variables are powerful in the sense that they apply to a range of objectives and have been found to be significant in a number of experimental studies. The SCE who wants a teacher to identify an instructional goal--a change in the teacher's own behavior--must give thought as to the analytical scheme that will be most useful to that teacher in finding something of instructional significance to change. There are numerous obvious factors that can be noticed and manipulated by the teacher, e.g., his rate of speech, his penmanship at the chalkboard. But if pupils are to be better served, the teacher must learn to recognize and manipulate more subtle variables in his behavior, e.g., his matching of classroom activities to those activities which the child has found rewarding in the past. In short, the SCE has a problem of selecting the analytical schemes which will be most useful to the teacher in identifying instructional practice to manipulate. Also, inasmuch as the teacher must "check out"--verify--the effect of any modification made in his teaching strategy, the SCE should be sure that each teacher has both the skills for conducting the testing immediately as well as after delay. Further, the SCE must find out to what extent the teacher has acquired the prerequisite attitude that it is unethical for one to practice a favorite method without collecting evidence as to its consequences for pupils.

As a post-script to this section, it should be mentioned that while the making of classroom observation provides data from which the SCE and teacher draw inferences that a particular change in teaching strategy is warranted or that it promises better results (improved instructional competency), observation may also provide data--especially when it includes recording of pupil responses--that have implication for the improvement of the teacher's curricular competency--the selection of more appropriate objectives for his pupils.

Accepting Goals

There is a story about a farmer who when invited to attend a meeting sponsored by a department of agriculture on improved methods of farming, replied "I already know better how to farm than I farm." Perhaps this anecdote suggests what happens in instructional improvement programs for teachers when the teacher sees no need for change. In accordance with a behavioral objective model for instructional improvement, SCE and teacher focus on specific changes sought in the teacher's pupils and the evidence that the teacher has or has not been successful in achieving these changes. When the teacher is not successful, presumably he is ready to consider changes in his own behavior provided he can see that these changes are indeed likely to pay off for his pupils and that he has a good chance to master the change. Few teachers are going to accept an instructional goal to decrease the percentage of time they talk or other practice for which they have been rewarded, (e.g., the talking teacher may find reward by the sound of his own voice or in expressing ideas) unless they perceive greater reward for making the change or are given negative reinforcement and threatened with punishment.

It seems plausible that if a teacher can be helped to define an instructional problem of concern to him, that is, a failure to get the pupil responses which he wants, the teacher will then be willing to accept the changes necessary to resolve the problem. In the past, supervisors have tried to get teachers to make instructional changes when the teacher saw (felt) no reason for doing so--other than because of the institutional authority imposed. Acceptance of change is more likely to occur by replacing what the teacher considers to be personal achievement imposition and substitution accountability as shown by the teacher's pupils' achievement which the teacher has indicated as warranted and for which he has agreed to be responsible.

Other aspects of the instructional objectives model for teacher assessment contribute to the teacher's acceptance of the need for change:

(a) specific data that change is necessary, e.g., pupil responses, observations of teaching episodes.
(b) no inferences are shared with the teacher without support data.
(c) immediate testing of pupil attainment following each teaching episode. There is no waiting until the end of a term before realizing that lessons have been ineffective. Reconsideration of teaching strategy

occurs after results are in from each lesson as well as results from cumulative lessons.

(d) analysis is made of teacher's behavior and its logical match to the instructional objectives held for pupils.

(e) as a teacher tries out his newly acquired competency and finds its power, (effectiveness) he is reinforced for using that particular competency, and therefore is encouraged to acquire other changes in his teaching repertoire.

(f) the focus on a specific objective rather than on a vague goal makes it easier for a teacher to see what is required of him and, therefore, he can better judge its value and shape his conduct to reach the objective.

Special Considerations

The SCE is concerned with helping teachers develop and define their own professional goals in operational terms. Nearly all teachers can learn to operationalize goals. However, it is easier for some to learn to do this by first stating a broad vague goal, such as: "I want to be sensitive to pupil behavior." From this general statement, the teacher can move to the more specific: "Given anecdotal records of pupils, the teacher can list at least three possible reasons for the behavior depicted."

Others find it easier to move from activities to precise statements of objectives. For instance, a teacher might be asked to describe what he is doing in order to improve his pedagogy. From his reply, he can be led to stipulate how he expects the activity to make a difference in his classroom behavior and how he will recognize the difference, e.g.,

> "I am reading Gagne's book on the conditions of learning."
> "What will you be able to do after you read this book that you couldn't do before?"
>
> (Other intervening dialog and eventually)
>
> "Given a number of instructional objectives or instructional tasks in my field, I will be able to order them by their complexity. Basic to this, of course, I will be able to recognize those objectives that demand signal learning, stimulus response learning, chaining, verbal-associate learning, multiple discrimination learning, principle learning, and problem solving."

Personal experience with teachers leads me to believe that the SCE will meet some who will initially state objectives which they have already attained. One way to deal with this situation is to ask the teacher to submit evidence that he cannot now perform as the objective requires. Perhaps before accepting the objective the SCE will want to pretest the teacher and collect his own evidence as to how near the teacher is to attainment of the objective.

Opposite to the teacher with low expectations, there are those who set goals that might take years to attain, e.g., a basic personality change. It is often fruitful in such a case to help the teacher make a task analysis--to list as many of the prerequisite changes that would have to happen before the objective could be reached. After the list of prerequisites is prepared, the teacher frequently selects one of them and states it in operational terms as an objective worth attaining (it is enroute to the highly valued objective) and it really looks as if it can be reached.

Teachers also can be helped to prepare instructional objectives that can best be stated as a product with specified qualities. Here, for example, is one:

> "The tests that I will be able to prepare for my pupils will display the following quality: items that measure pupil attainment at three levels of the "Bloom Taxonomy."

In addition the teacher should get practice in preparing instructional objectives that are centered on process:

> "When I call on pupils, I will do so in a random order (technical definition) thus avoiding discrimination among the pupils and misleading feedback to myself."

Other kinds of objectives--those that are motor and attitudinal in nature as well as those that call for a high cognitive behavior should be prepared by teachers to foster comprehensiveness and to avoid the charge that instructional objectives are only appropriate for goals in the cognitive domain.

The setting of goals with the teacher presents a special opportunity to demonstrate the concept of contract decision. In accordance with this concept, the instructional objective is a negotiated exchange between the SCE and the teacher where the teacher freely accepts responsibility for attaining the objective. The objective is problem oriented and instrumental; it is not coercive. The contract is renegotiable when the teacher has new evidence to submit that an alternative objective would be more justified. The teacher must learn that curricular effectiveness is improved when instructional objectives are not reached but more appropriate objectives are formulated as a result.

It will be difficult for some teachers to act in accordance with the statement that there is no proven method of instruction. The idea that methods are means--something to be tested in terms of pupil responses comes hard to those who have been trained as apprentices--trained to emulate "master" teachers and not to be students of teaching. Special tools are necessary to help the teacher become a student of his own teaching. Some of those have been mentioned in foregoing paragraphs, e.g., sampling techniques, criterion referenced testing, powerful instructional variables, teaching to mastery of a single concept rather than "covering ground" and providing learning opportunities without taking responsibility for outcomes. The training seminar must give the teacher opportunity to practice using these new tools.

The concept of behavioral objectives is more than a tool. It is a response to a demand for accountability; that learners must change or the instruction is not effective. Since the operationality of objectives increases probability of learner achievement, there is greater need than ever for selecting those objectives that are most valid--not only to the person--the learner--but to a larger community. In the SCE-teacher seminar this means that the objective selected--the target change in the teacher's behavior--should be seen by the teacher as valuable and that it have a logical or empirical link to increased achievement among that teacher's pupils. The topic of instructional objectives is not closed. CERLI, for example, can help throw light upon a fundamental issue: Should the teacher be expected to formulate his own objectives or to select for his own use those he wants from a pool of objectives formulated by others?

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FEEDBACK THEORY as it RELATES to CHANGING TEACHER BEHAVIOR

By

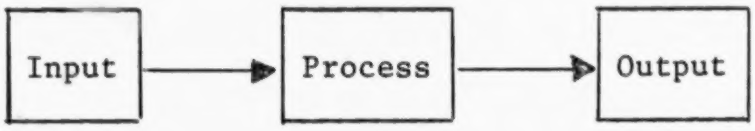
Dale G. Lake and Rafael Chodos

I. FEEDBACK IN GENERAL

A. Determinate Systems

Feedback is a property of certain systems, and it should be considered in its proper theoretical context. To think of something as a system is to think of it as having input, process, and output: those are the three elements of the systems model. To the psychologist, they are already familiar, but under the names of "stimulus", "black box", and "response". These three elements are arranged in a certain order (see Figure I.) because they exist in time: the input-stimulus takes time to generate the output-response. We express this idea by talking about the input at time t, and the output at time t'.

FIGURE I.



To say that a system is determinate is to say that it operates according to laws, that its output is somehow a result of its input. Often we wish to understand a system whose laws of operation we cannot learn by inspection. In such cases we postulate, usually on metaphysical grounds, that the system is determinate -- i.e., that its laws of operation exist, and then we try to infer those laws from observations of the system's inputs and outputs. The classic example of such a system is the human mind. The program of the S-R theorists was this: since we cannot look inside the black box, we must set about inferring its contents from a careful study of the system's "behavior" -- that is, of its stimulus-response patternings.

Disregarding the particular nature of the stimuli and responses we study, and paying attention only to their inter-relations, it seems natural to suppose that in a determinate system the same stimulus S should always generate the same response R. For one thing we require of the black box is that its contents not be constantly changing: laws that change are not really law-like. So, if we agree to think of a stimulus as "triggering" a response, we require that the intervening mechanism be somehow describable and therefore in some sense constant.

Keeping this methodological requirement in mind, consider the actual behavior of a typical human being. It characteristically exhibits the following property: at time t, stimulus S generates response R, but at time t' the same stimulus S generates response R'. This pattern emerges every time an individual learns something. For example, if at the beginning of a feedback series the teacher reviews his performance on video tape and is made aware that he did not summarize his lesson with a "review" and "anticipation" of what is to follow, he may subsequently change his behavior to include summaries. Similar examples involving all kinds of learning may be multiplied. How are they to be accounted for, if the process part of the system is to be thought of as constant at all? The sense in which the intervening mechanism is "constant" must be more subtle than might originally have been supposed.

The natural supposition to make is that the black box contains two kinds of mechanism: static mechanisms, which do indeed assign the same outputs to the same inputs, and dynamic mechanisms, which change the static mechanisms. But claiming that two kinds of mechanisms exist inside the black box does not yet constitute a full explanation of the observed behavior. For going back to the example of the teacher learning to summarize his lessons, once he has learned how to summarize he will always summarize. In our terminology, after a certain time the same stimulus S always gets the same response R', and there is no more change.

In order to account for this aspect of the typical learning behavior pattern, we must suppose that somehow the dynamic mechanisms stop modifying the static mechanisms after a certain point. Therefore, the black box must contain a switching mechanism which turns the dynamic mechanisms on and off. But on the basis of what criteria does the switch operate? After all, the static, dynamic, and switching mechanisms are all parts of a system, and they are all supposed to work according to laws. So far, we have postulated that the system looks like the one drawn in Figure 2. But if this is the whole story, then whatever rules the switching mechanism works by will induce it to make the same decision on the same input: if at time t it reacted to input I by activating the static mechanism, why would it react at time t' by activating the dynamic mechansim? Amusingly enough, the system in

FIGURE 2.

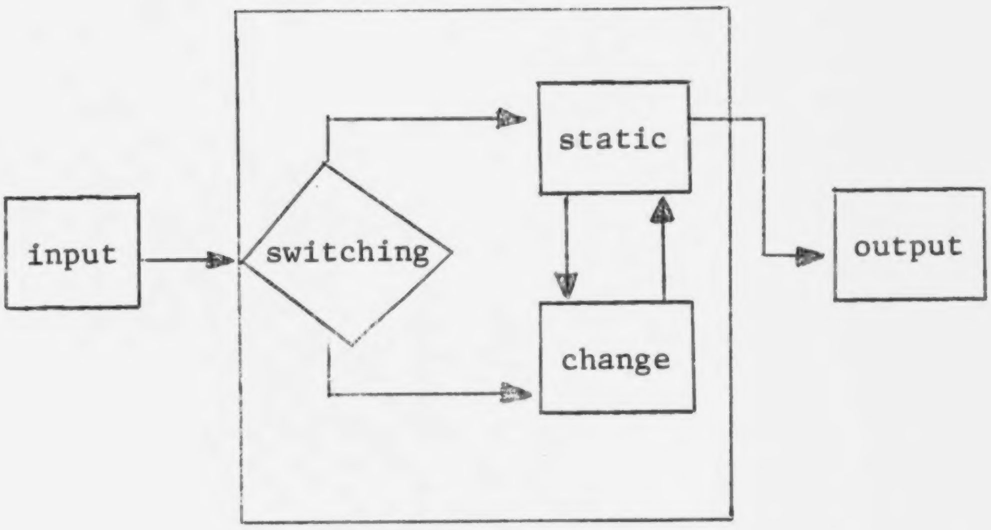
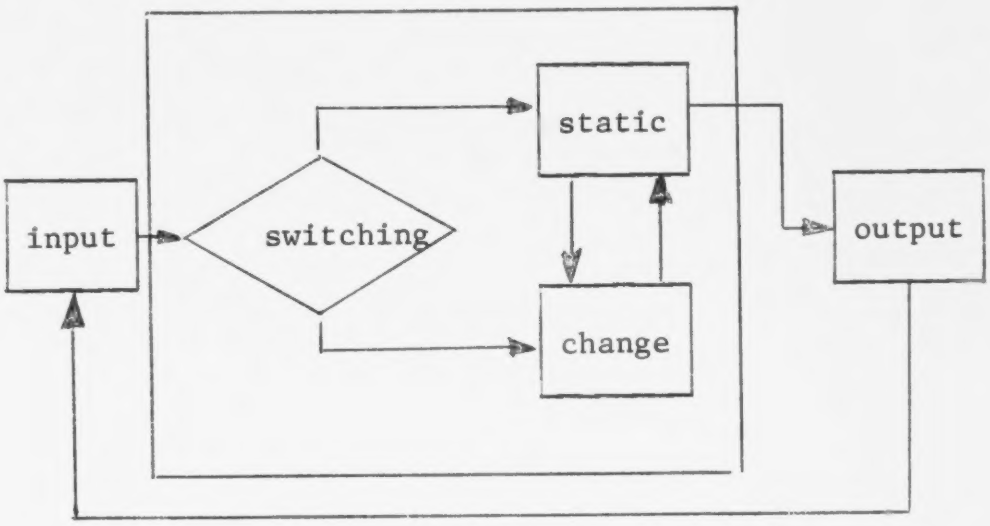


Figure 2 does no more than the system in Figure I towards accounting for the observed learning behavior. So far we have just begged the original question.

It is here that the notion of feedback comes to our rescue. We add one more line, called a "feedback line" to our diagram (Figure 3) and the problem is solved. The system's input is pictured as composed

FIGURE 3.



of two parts: stimuli from the environment, and stimuli arising from its own output. When the switching mechanism discerns a certain property in the output-generated stimuli, it stops activating the change mechanism. But until this property is discerned, the same environment-generated stimuli generate different responses at different times.

The whole of Figure 3 pictures a feedback loop, and all the elements work together to enable the system as a whole to exhibit the kind of behavior we have called "learning behavior".

B. The State Space

We may ask what that "certain property" is which causes the system to stop activating the change mechanisms. The answer will of course be different for different systems, but a general answer can be given.

When we study a system, we can attend to only some of its properties, and our description of it is necessarily made in terms of a finite class of predicates. So, for instance, if we think of the teacher as a learning system, we might describe him in terms of just two predicates: 'reviews' and 'anticipates'[1] (see Figure 4). These two predicates would suffice to describe his behavior as a system learning to summarize effectively. For in considering him as such a system, we are not interested in things like his body temperature, or his skin conductivity: all we care about is whether he completes the class period by reviewing what came before and preparing for what is about to come. We can think of reviews and anticipates as the dimensions of a space in which the system moves. This space could be pictured as in Figure 5.

FIGURE 4.

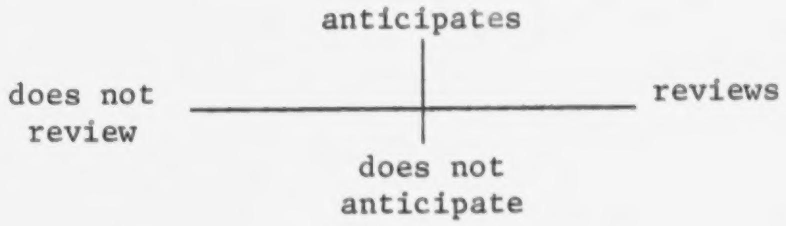
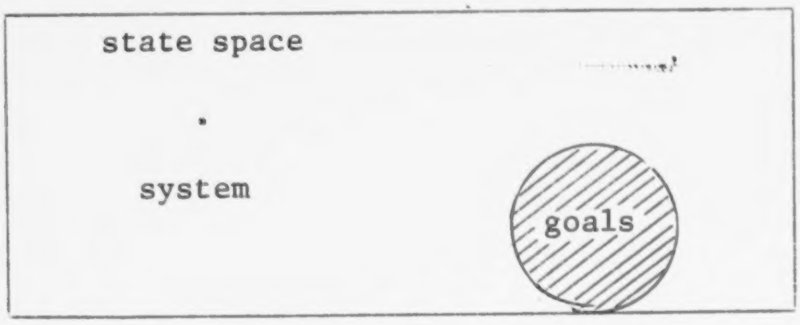


FIGURE 5.



The shaded area would represent the "target area" of the system: the goal which it wants to achieve. The system can always be thought of as having some position in this space, because it must always be in some state which is describable in terms of the predicates. The whole space represents its range of possible states, and so is called its "state space".

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[1] Names of systemic elements are enclosed in single quotes, i.e., 'summarizes'.

The typical behavior pattern observed in actual learning systems may now be characterized as follows. At first, the system occupies some position outside the target area. As it receives initial stimuli, it changes its static mechanisms, generating outputs which bring it progressively closer to the target area of the state space. (Note that the position in the state space is a representation of the system's behavior: its describable aspect.) But once it is inside the target area, it no longer activates its dynamic mechanisms.

Now it appears that the "certain property" of its input that the system recognizes which causes it to de-activate its change mechanisms is simply this: it recognizes that its present position in the state space is inside the target area. Until it recognizes this property, it continues to change itself. But once its position is "satisfactory" it remains static. In our case of the teacher, the input he receives is partly environment-generated, e.g., the supervisor, and partly output-generated (his attempts at summarizing effectively). Until his performance is satisfactory, he receives negative reinforcement (he is satisfied with video tape of his performance) to which he reacts by de-activating the change mechanisms.

Observe that the state space may be n-dimensional, and that each dimension might induce an absolute, interval, ordinal, or nominal scale. In our example, the state space is two-dimensional; 'reviews' and 'anticipates' both induce nominal scale (does/does not). (See Figure 4.) A third dimension might also have been introduced, the length of time it took the teacher to learn to summarize. This dimension would have induced an absolute scale. Many vehicles have been constructed to examine teacher behavior (see Mirrors of Behavior). For instance, Flanders' (1967) interaction analysis instrument is one way of codifying certain discrete behaviors in the teacher's state space such as 'asks question', 'listens', 'lectures', etc. In addition, there are more naturalistic vehicles such as video or audio tapes. The higher the dimensionality of the state space, the more complex is the system under consideration, and the more predicates it requires to describe it. And the more predicates it takes to describe the system's inputs and outputs, the more complex must its process module, its "black box", be presumed to be.

II. FEEDBACK AND THE TEACHER

A. The Model: Output, Input, Switching Mechanism

The first step towards using the feedback model to improve a teacher's performance in the classroom is to translate each element of the classroom system into some feature of the feedback loop. The relevant learning system is the teacher -- it is his behavior we want to change. The set of things he does vis-a-vis the class is his output. His input is: (a) the set of environment-generated stimuli he receives -- curriculum, directives from above, comments from his colleagues, suggestions from the SCE; and (b) the set of output-generated stimuli --

the students' reactions to his behavior. The feedback line already exists: students necessarily evince some reaction to teacher behavior, which presents itself as input to the teacher. The three mechanisms inside the black box which transform the teacher's inputs into his observable behavior are conceived to have three parts: a static part, being a set of rules by which the teacher produces his routine behavior; a dynamic part, being a set of rules by which he changes the static part; and a switching, or discrimination mechanism.

The preceding one-for-one translation of the model elements into aspects of the modelled system is not really complete until we have defined the system's state-space. That involves specifying the predicates in terms of which we undertake to describe the system. Our concern here will not be to actually specify those predicates, since it is not we who will judge what is important about the system. But we want to point out that once these predicates have been specified, and the target-area of the state space has been defined, we may construct the switching mechanism by building into it the definition of the target-area: a definition either in terms of the actual predicates defining the target-area, or a definition in terms of necessary concomitants of those predicates. For example, Flanders' observation instrument projects the total state-space onto a finite set of orthogonal dimensions, namely, the ten discrete observable behaviors. The teacher is encouraged to score a certain way on Flanders not because that is good in itself, but because Flanders claims those scores are necessary concomitants of good teaching. Thus the switching mechanism need contain no more than some representation of the target-area; but it must contain at least that much. This is to say nothing else than that the goals must be defined -- and defined not only nominally but operationally, so that the discrimination mechanism can recognize when the goals have been achieved.

B. The Use of the Model

The reader should bear in mind that the feedback loop is a descriptive model of phenomena, which has very little explanatory power by itself. Until the skeleton in Figure 3 is fleshed out by actually specifying the predicates in terms of which the system will be described, and by setting up the switching mechanism, the feedback loop is just a form of explanation: a schema for a theory. The explanation always inheres in the particular predicates.

Because the feedback loop has so little explanatory power, no one is under any obligation to cast his explanations in its form. If someone objects to viewing the teacher as a learning system, there is nothing we can say. There are other mechanistic models than the one of a system, and it is in the nature of models that they are neither true nor false: they are just more or less useful.

In viewing the teacher as a learning system, we are not using the model to describe an observed phenomenon: we are using it to bring about a phenomenon. Perhaps the systems model is grossly inappropriate to the teacher-student situation: that will not matter to us if by urging the teacher to accept the model and its implications the SCE can get him to improve his performance. We may think of the teacher and the SCE as carrying on a sort of dialogue: the teacher says to the SCE, "I want to achieve A, B, and C in the classroom." The SCE answers, "You mean you are in a state space, whose target-area is defined by A, B, and C; and you are outside the target-area." He then goes on to get him to define the various dimensions of the state space, to embody A, B, and C in some switching mechanism, and to flesh out the various other parts of Figure 3. Now he has made the teacher simulate a feedback loop -- no matter what the teacher really was before (i.e., no matter what model was really most appropriate to describe him before). And if he simulates a feedback loop, he will eventually move into the target-area, and achieve his goals.

III. PROPERTIES OF FEEDBACK: WHAT MAKES FEEDBACK GOOD?

At this stage of our investigation it becomes necessary to introduce new notions that do not arise from the theory of feedback systems alone. If we confine ourselves to a study of Figures 3 and 4 viewed together as an abstract theory, we can say only so much about what makes feedback good. For instance, from that diagram alone, we can deduce that if the feedback line is "clogged", or if the switching mechanism cannot recognize the properties of the target-area, or if the change mechanisms act upon the static mechanisms in such a way as to direct the system away from the target-area, feedback will be bad. Conversely, we can give general advice about how to make feedback good: facilitate the flow of data along the feedback line; set up the discrimination box carefully; make sure the change mechanisms change the system in the right direction. But these general rules are no good by themselves: the SCE wants to know how to facilitate the flow of data along the feedback line; how to set up the discrimination mechanism; how to rig the change mechanisms correctly. In other words, we need to talk now about properties of the classroom as distinct from other feedback systems. But this means we have to take a few steps towards fleshing out our skeleton theory. We have to talk about the predicates in terms of which the classroom system's state space will actually be defined. Yet we cannot actually name the predicates. What we must do is single out classes of predicates that the teacher might choose from and discuss the feedback properties of these classes.

Since the classroom system is made up of human beings (primarily -- physical objects also play a part -- desks, chairs, the room and buildings themselves), we avail ourselves of a very general distinction made by psychologists: the distinction between the cognitive and affective functions of the psyche. Since this distinction is so basic, we trust that we do not exclude from the discussion which follows any predicates which might be relevant to the classroom teacher.

A. Cognitive: the "Digestibility" of the Feedback

The mere fact that data is being fed back to the classroom teacher on his teaching practices is not enough to ensure that he will improve those practices. He must know how to use that data to bring about change. For instance, what good would it do a teacher to be told that his current score on the XYZ-scale of teacher effectiveness is 8.6? No good, obviously. But let us ask ourselves why. First of all, the teacher might not know whether 8.6 is a good score or a bad one. Second, he might not know what the XYZ-scale is. The fact that it purports to be a measurement of teacher effectiveness is hardly enough -- that is probably true of every scale he might be scored on. Notice that if 8.6 is a good score he need not worry about what the XYZ-scale is. But if 8.6 is bad, he will need to know particulars: the information that he is not an effective teacher is too general to be of use. To complete our analysis of the inadequacy of this feedback data, let us suppose for a minute that we can overcome the first two objections. Suppose we can tell the teacher that the XYZ-scale -- a purely fictitious scale, and any similarity to scales living or dead is purely coincidental -- measures a teacher's effectiveness by measuring the size of his shoes, and that 12.0 or more is considered a good score. Now the information is perfectly specific, but it still has two serious failings: (1) the teacher might not agree that his shoe size is a valid indicator of his effectiveness; and (2) even if he did agree to take his XYZ-score seriously, what could he possibly do to improve it?

We can rephrase our discussion in terms of feedback, and generalize it. The first two failings of the data can be viewed as a failure of the data presented at the input module to be recognizable by the teacher's switching mechanism. Remember that the switching mechanism was supposed to decide whether to activate the change or the static mechanisms. But in our example, it could not make that basic decision, because the predicate "8.6 on the XYZ-scale" was unknown to it. Then, even once the switching mechanism was altered so that it recognized the data, and sent it along the path to the change mechanisms, the feedback loop failed to operate because there were no effective change mechanisms to activate: the teacher had no means of altering his shoe-size.

Because the input data was so hard for the system to process through its various mechanisms, we can think of it as being "indigestible" data, and we can insist that feedback data always be "digestible". This digestibility comes down to two things:

1. Data must be expressed in terms of predicates known to the switching mechanism. The predicate "XYZ-scale - 8.6" did no good until it was translated into "improper shoe-size."
2. Data must describe manipulable phenomena. In order for phenomena to be manipulable it must be alterable and one must have a theory of how to alter it. Unless the teacher has a

> theory about how to go about changing his shoe-size, XYZ-scale data is of no use to him.

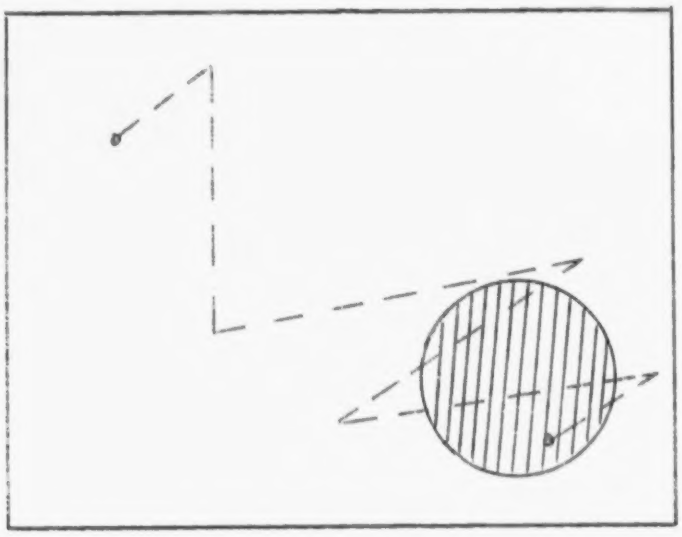
(1) is a property of the relation between the input and the switching mechanism; (2) is a property of the relation between the input and the change mechanisms.

We do not have to go so far afield for examples of feedback data that is useless because it fails to satisfy either (1) or (2). When a student asks a teacher why he got a 'D' rather than an 'A' on his essay, he is asking the teacher to translate the feedback data "bad essay" (he knows that 'D' means "bad") into predicates that he can work with. And when the teacher responds by saying, "Well, Johnny, your essay just didn't hang together very well," he has failed to make the feedback data usable. Similarly, it may not be helpful to tell a teacher that he needs to be more "open with his students": it may not be clear to him what "openness" amounts to, or how to improve his openness. Terms like "creativity", "imaginativeness", "receptiveness" probably fail to constitute effective feedback data for the same reason.

We should pause here to observe that feedback data which is not theory-related may be helpful if taken together with other kinds of feedback. Sometimes a teacher may not even know whether he is doing well or poorly with a certain class. In such a case, he might want to do a preliminary study to see if he needs to expend further effort towards improving his teaching practices. All he would require for this study is feedback data that would get processed through the switching mechanisms; he need not worry about the change mechanism at all. We call such feedback data "indicative" rather than "indicative and helpful". Remember that improvement is a two-step process: first a decision must be made to activate the change mechanisms, then the mechanisms are set in motion. But we emphasize that indicative data alone is good only for a starter: it must be followed by gathering and processing data that is helpful as well as indicative.

The question of the theory-relatedness of the data is interesting in itself, and could almost be treated as a separate topic. We can consider various kinds of change mechanisms conceivable in an abstract system. Think of the point of Figure 5 moving around in the state space. Any change in the direction or speed of its movement is a product of the change mechanisms. Now we can imagine a point moving always closer and closer to the target-area, but taking smaller and smaller steps the closer it gets. (Zeno's paradox need not arise: each step could be more than half as big as the previous one.) This is the sort of change mechanism operative in a high-jumper, viewed as a learning system. The closer he gets to his upper limit, the smaller his improvement is. Conversely, an algebra student learns more quickly as the term progresses; the initial insights come slowly, but then progress is swift. That change mechanism works faster the closer the system gets to its goals. Another possibility is that the change mechanisms always produce the same incremental effect whenever they are activated. A student trying to improve his study habits might always tack on an extra ten minutes of study time each night, until his grades get above a certain level. And the last sort of mechanism we can mention is one which varies its operation in different regions of the state space. The path described by the system in Figure 6 is a very common one in learning systems: the system over-compensates and then corrects itself, until it finally arrives inside the target-area. A teacher who is told that his classes are 86% teacher-talk might conduct his next class in such a way that it would be 20% teacher-talk. It would take practice before he could stay in the 40% to 60% region.

FIGURE 6.



These kinds of change mechanisms are important for the SCE to know about because they will keep him in mind of an important property of the state space: it must be metrizable. That is, the notion of "closer to the target-area" must have some meaning. If all the dimensions of the state space induce nominal scales, feedback does not work. This is because there is no way for the system to tell whether its last change brought it closer to its goals. A system in such a state space might, by luck, bounce into the target-area on one of its moves. But the methodical sort of progress we are trying to insure cannot be conceived of except in a state space with at least one ordinal-scale dimension. Remember that feedback works in cycles: each time the system moves, it takes a new reading to see if it has come closer to its goals. If it has, it lets the static mechanisms remain constant. Otherwise, it activates the change mechanisms. But if the notion of "closer to its goals" has no meaning, the system cannot take the necessary readings. It would then be reduced to some artificial criterion for activating the change mechanisms: e.g., activate every 30 "clicks", unless the goals have been achieved. But that rule -- which would be stored in the switching mechanism -- is independent of input, and the whole apparatus of Chapter I above would have to be thrown away for the analysis of such a system.

From our discussion of theory-relatedness we can suggest two things for the SCE always to keep in mind:

1. The degree to which the state space is metrizable;
2. The degree of interaction between the change mechanisms and the input data.

On the second point, observe that the switching mechanism sends more than simply a "yes/no" pulse to the change mechanisms; it transmits the actual input data. It is this which induces variation in the speed and direction of the motion of the system in the state space.

B. Affective: The Attitude of the Recipient towards the Feedback Data

i. Credibility

In our example of the XYZ-scale, we made an observation which we did not expand on. We pointed out that the feedback might fail because the teacher might not agree that his shoe-size was a valid indicator of his effectiveness. This attitude of his need not necessarily be thought of as a cognitive response to the data. We can certainly think of him having very much the same attitude towards more valid data. Similarly, we were even able to imagine him being ready to accept the XYZ-scale as valid: once he accepted it, the rest of the feedback loop might actually have worked. Suppose, for instance, that teacher A received teacher B's score on the VALID scale of teacher effectiveness: as long as he believed it was his score, feedback would work. In other words, what is most important about feedback data is how the recipient treats it. We call this affective property of it, its credibility.

Recent research (Retrieve article in Journal of Exp. Soc. Psych.) has shown that the credibility of the communicator is an important element of attitude change. The experiment set up groups which listened to advocates of stricter laws. In one group the advocate was thought to be a criminal and in the other a lawyer. The same person and message method were used in both groups. The group thought to be listening to the criminal altered their attitudes more. This was explained as due to the lack of suspicion of the criminal's intentions.

Credibility in the feedback loop will have to be achieved through the actions of the SCE and the media, i.e., video, audio tapes or instrumented data used to transmit data. An important aspect of credibility for the SCE will be a function of his relationship to the teacher or teachers to which data are fed back. The SCE role as conceived is one aspect of the feedback loop which is meant to be helpful to the teacher. Helpfulness is in part a function of the helper's ability to minimize those activities which are undertaken solely to meet his own needs. Therefore, special training will need to be given the SCE to insure that he is not using the feedback situation to gratify such needs as loneliness, dominance, etc.

The credibility of feedback data might be enhanced in any one of several ways. If the data is in fact reliable and accurate, those virtues may enhance its credibility in the recipient's eyes. But the best way to insure credibility is to let the prospective recipient gather the data himself, or at least design the means of collection. This is part of the plan the Laboratories have already evolved: we mention it only to show how it fits into our feedback model.

2. Receivability

The recipient may reject feedback data on other grounds than its credibility: it may simply be too dangerous for him to accept. Data which relates to certain areas of the self might encounter great resistance on its way from the input module to the switching mechanism. When it finally arrives, it may even have a bad effect. For instance, it has been noted that low levels of psychological stress induce increased response variability but extreme levels lead to stereotypy of response. If feedback data is too stress-generating, the recipient will respond by making his responses stereotyped. This, last of course, is the very opposite of what feedback is trying to bring about, and we might say that extreme stress-generating feedback data defeats its own purpose. The SCE should remember that the sort of feedback loop he is trying to get teachers to simulate can only carry so much "current". The feedback process is an instrument for just some kinds of change: it cannot take the place of, say, psychotherapy. The predicates the teacher uses to define the state space should not be too affect-laden. They usually will not be if they are kept operational: in general, the more operationalized a predicate is, the more de-personalized it is, and the less affect it has for the individual.

C. Measurement Properties of Feedback Data

In the preceding sections, we considered properties of the feedback data in relation to the black box. We now consider its properties "in between" the output module and the input module. Instead of asking how the recipient responds to the data, we now consider how the data comes to the recipient.

1. The Predicates: Scalability

The predicates in terms of which the data is expressed should be ordinal-scalable at least: that much we have already seen. We observe here that the common way of generating an ordinal scale from a dimension that is really a nominal scale is to score a collection of nominally-scaled items. So, for instance, correct/incorrect is a nominal scale, but 'number correct' is an ordinal scale. (It seems to be an absolute scale, but it does not necessarily have the requisite properties. In order to be an absolute or interval scale, all the items would have to be of exactly the same difficulty. But "difficulty" cannot be measured that closely.) Teacher-talk/student-talk is a nominal scale, but '% of time in teacher-talk' is an absolute scale.

2. Obtrusive/Inobtrusive Measures

The SCE should have in mind what price the teacher will have to pay for her feedback data. If an unobtrusive measure can be devised for the data, well and good. If not, the achieving of the goal might not be worth the class time that would be required to generate the data. For instance, if a researcher attempts to determine a teacher's morale by asking the question, "How often do you feel like a cog in the wheel of this system?" and the teacher responds, "Never until I had to answer this questionnaire." his measuring device has modified the teacher's perception in the act of collection. Obtrusive data collection devices yield data which are distorted by the teacher's reactivity. This suggests the need for multiple ways of collecting data. It also suggests that feedback loops will be "noisy" which carry highly reactive data.

We observe that certain obtrusive measures have become so integral a part of a typical classroom schedule that they are no longer obtrusive: examinations. Some teachers even say of examinations that they are valuable learning experiences in themselves. This suggests the possibility that other obtrusive measures could be integrated into the classroom system. Perhaps an "obtrusive measurement period" could be set aside once every two weeks. The measurements could be of different things each period, and soon the system would be capable of yielding up any data desired without disruption.

3. Speed of Retrieval

A question of great importance to any feedback system is how often it moves around in its state space, and the teacher who undertakes to simulate a feedback loop must always establish a time-scale for himself. Once the time-scale has been established, it is a general rule that feedback data should be generated and processed as fast as possible: once every time the system "clicks".

The time-scale should be made as fine as possible, but there are certain constraints. Suppose, for example, that an English teacher wants feedback on how well his students are learning to write. To test them every single day -- even if the testing could be done with an unobtrusive measure -- would be a waste of time: it is in the nature of "learning to write" that progress is visible only over a period of a few weeks. If the teacher were to test his class every day, he would not be able to see any change in the system's position from cycle to cycle, and feedback would not work. Remember that feedback depends on the system's ability to perceive its own motion in the state space. If the actual motion is in increments too small for the system to perceive, the overall movement will escape its notice. In practical terms, the SCE should get the teacher to consider what time-scale is the smallest possible for each predicate in the state space, and should choose the largest time-scale from among these.

The time-scale must not be too large": there is an upper limit on it as well as a lower one. Suppose a certain predicate is such that change along its axis would be visible only once every four months. Then a teacher who had a class for only one semester could gain nothing from a feedback approach to that predicate: once he had taken his first reading, it would be too late to do anything about it. By extension, it might not be helpful for him to tackle a problem involving a predicate which required even a one-month time scale: maybe three position readings and activatings of the change mechanisms would still not be enough to bring about improvement. There is always a practical limitation like this to reckon with. Some goals might be achieved, but the cost of trying to achieve them outweighs the gain of actually achieving them considered along with the likelihood of actually achieving them. This likelihood is a function of the change mechanism. Remember that in our system the actual realization of the change mechanisms is a theory of how the system might be improved. Sometimes, such a theory is of a very simple form, as where there are only two possible strategies for the teacher to apply: after finding that one is not working, his change strategy is simply to apply the other. But suppose there are fifty available strategies: then it could take him up to 49 tries to find the right one, and unless he could measure change along the relevant scale once every 1/49 of the time-period available, he might not be able to use feedback to achieve his goals. These considerations lead us to a measure of the likelihood of achieving success. Suppose this teacher had a measure that could be applied once every 1/48 of the time-period; the likelihood of his achieving the goal is very high, even if every strategy is equally likely to be the correct one. (If some strategies are more likely than others to be the correct one, then his likelihood of success is greater than 48/49.)

In general, the time-scale should be made as small as possible, and if it cannot be made small enough to assure a reasonable likelihood of success, feedback should not be attempted.

4. Predicates: Translatability into the Target-Area Criteria

If a man is trying to learn to dance, the best thing for him to do is dance a lot and see how he feels and looks. It would be silly for him to fill out self-evaluation questionnaires periodically on which he answered questions about how often he felt ungainly, etc., during the period. The point is: the feedback data should be expressed as nearly as possible in terms of the same predicates which define the goals. In the case of dancing, these predicates are visual and kinaesthetic; questionnaire data is always verbal, and hence is inappropriate to the goal.

We might, for the purposes of discussion, speak of three predicate-types: audial, visual, and verbal. The goal, "increase teacher-talk" is audial. "Decrease student fidgeting during class" is visual. "Improve performance on exams" is verbal. It seems obvious that where the goals are expressed in terms of predicates of one type, at least some of the feedback data should be expressed in predicates of the same type. But more needs to be said: even within one type, data needs to be chosen carefully. Let us consider the example of student-fidgeting. One kind of feedback data that would be absolutely essential to the teacher trying to decrease SF (student fidgeting) would be data on the amount of SF currently going on. This data is not only expressed in predicates of the same type as those that define the goals: it is expressed in terms of these very predicates. But this data alone will probably not help the teacher to decrease SF. What else might he want to know? Well, first of all, he must have some theory of what causes SF and of how to decrease it. One possible such theory is that SF is caused by SB, student boredom, and that to decrease SF one must decrease SB. Now the teacher will want data on the amount of SB, as well as SF. But SB, it turns out, involves verbal predicates, and we might find our teacher actually asking students questions about what they would like to study as part of his attempt to decrease SF. Now not only is question-data verbal as opposed to visual, but it is expressed in terms of predicates like "...likes to study..." -- which has no obvious connection with "...fidgets". But, of course, the teacher claims that there is a connection between the two predicates: that is his theory. And so he insists on gathering information about SB, and he uses that information to bring about change.

We spoke at the very beginning of the paper about input data being expressed in terms of the predicates which actually define the target-area, or in terms of necessary concomitants of them. Now we have a third category of input-data: data expressed in terms of predicates that are "translatable" into the definers of the target-area. This translation is via a theory, and the translatability requirement is really just an extension of the theory-relatedness requirement.

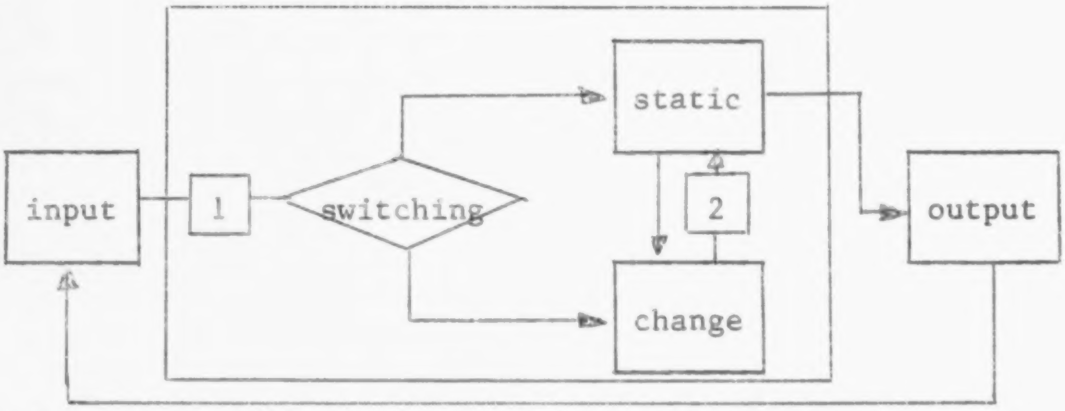
IV. FEEDBACK AS AN APPROACH TO USING OTHER APPROACHES

The notions in terms of which feedback theory is developed are so abstract that other notions may be expressed in terms of them. "Feedback" is at the same level of abstraction as "causation"; and just as the basic notions of the particular sciences may be cast in terms of "cause" and "effect", so they may often be cast in terms of the elements of the feedback loop. Thus, the theory of feedback as it applies to the classroom should not be considered as an alternative to, say, the theory of cognitive dissonance, or of functional autonomy, or of Gestalt perception. It is best thought of as a way of thinking about these other theories. In this section of our paper we show how most of the research in the field can be brought together under the feedback model.

A. A Slight Revision of the Model

To this end we re-draw the general feedback loop (Figure 3) as in Figure 7. The difference between the new loop and the old is that in the new, boxes have been inserted in the lines of flow between the input and the switching modules, between the change and the static mechanisms, and between the static mechanism and the output module. Each of these boxes represents an agency which transforms the signal being sent along the line. In our case, since the learning system is a human being, it is very helpful to focus on these transforming mechanisms as distinct

FIGURE 7



from the essential elements of the feedback loop. In theory, however, we need not introduce these new elements, since they can be thought of as parts of the old ones.

B. The Significance of the First Box

One of the fundamental axioms of psychology is that there is a conceptual distinction between the real and the perceived. One general kind of psychological study involves our measuring certain aspects of a situation as it really is presented to a subject, then measuring these aspects as they are perceived by the subject, calculating discrepancies, and trying to account for them. If the discrepancy exists, then it may be attributed to the operation of some agency which intervenes between the real world -- whose presentation to the subject is represented in the model as the input module -- and the subject, whose "front end" in the model is the switching mechanism. This agency is our first box.

In this box are located perceptual patterns which are composed of two major areas, those which are idiosyncratic and those which are normative. The basic phenomenon of perception is energy mediated through sensory mechanisms. The modification of energy in the perceptual process is described by Murphy (1947) as guided by needs. The relative strength of needs may affect what is perceived. The motivational state exists first and exerts an influence upon the way in which the person will perceive the world. In Murphy's words, "Needs keep ahead of percepts."

In addition to idiosyncratic needs, percepts are modified by the socio-environmental conditions under which they occur. The referent groups, roles, norms, and physical structures of the surrounding will help to determine the nature and quality of perceptual input.

The input module does not simply receive all the data available to it as a photographic process; rather, certain objects are selected out by the individual and given personal construction. One set of determinants as to how the cognition will be organized are the factors associated with the stimulus itself. One such factor is that of contrast. One student who is excited and bouncing around in his seat will stand out from his peers and will also claim more of the teacher's attention. Another factor is frequency; most teachers report surprise at how frequently they are doing the talking in their classrooms. Similarly, the more often particular phenomena are brought to the attention of the teacher in the feedback situation, the more likely she is to respond. Another property is intensity -- a shout is more attention-demanding than the normal speaking voice; audio and video data received may reflect the teacher's own intensity while working in the class. Finally, number affects selectivity; the more objects there are, the greater the selectivity. This suggests that if we expect inputs to be received and attended to, some attention must be given to the stimulus properties, i.e., not too many items should be fed back at once.

Learning and grouping. Inputs are organized into larger cognitive systems; these larger systems are also determined by our experience. Thus, one teacher viewing the video tape of another teacher working in a classroom might attend to cues from students which indicated that students were acquiring new content. Another teacher, perhaps trained in inquiry methods, viewing the same tape, would attend to the number and types and sequence of questions asked by students.

Perhaps one of the most important kinds of cognitive systems is the causal system, that is, our perception of two objects or events in a cause-and-effect relation. The more complicated level relevant to this discussion is that of "human causation". Heider (1944) in his very helpful analysis of perception of responsibility (e.g., the attribution of a crime to a person) can be due to several types of similarity such as physical similarity or ethnic similarity. Heider refers to an early experiment by Zillig (1928) to illustrate this point. In that experiment two groups of children performed calisthenic exercises before an audience of their classmates. One of the performing groups was composed of children who were almost uniformly disliked by their classmates, and the other group of children who were liked. The experimenter had trained the liked group to make mistakes deliberately and the disliked group to perform the calisthenics letter-perfect. At the end of the two performances the experimenter discovered that the audience had "seen" the disliked group as having made the mistakes. A mistake, it appears, is much more likely to be organized with disliked people than with liked people.

Notice that this does not mean that we cannot change our systems of organizing disparate and similar events and persons. But it does mean that initially and prior to any corrections our cognitions of cause and effect tend to be organized through the use of stereotypes and the association of events with persons which either occur in the same proximity to each other or seem similar, as in connecting calisthenic mistakes with disliked children.

Whole-part relations. The properties of a cognition are influenced by the system of which it is a part. The influence of the whole on its parts is seen in the perception of others through such principles as assimilation and contrast. Thus, the teacher may expect the student who comes from a family in which brothers and sisters have preceded him with very good grades to receive good grades. He believes the Clarke family to have bright children, therefore Jim Clarke must be bright. Through contrast the teacher may underestimate the intelligence of an intelligent Negro if he holds the stereotyped notion that Negroes are unintelligent.

Intentionality. Each message received by the input model will have both its content form and its interpreted form. A teacher will wonder what is intended for him when some aspect of his teaching is singled out for attention. For instance, a teacher may wonder why he must systematically gather feedback about his behavior at all -- is he being subtly told that "he is not performing well?" It is simply a fact of inter-personal behavior that we may suspect the intentions of others for us. For instance, a superintendent once told his principals that they must be the real change agents in their school system. His intention was to encourage principals to take risks and know that he would support them. An interviewer later learned that the principals "heard" his statement as "they had better get on the stick or get fired."

Another aspect of the feedback situation which is relevant to the type and amounts of data which can be received is that of adaptation level. Helson (1959) developed a theory of adaptation level in order to understand and account for "universality of shifts in scale-values with change in comparison-stimulus." For example, whether an object is judged "light" or "heavy" depends upon whether its actual weight is less or greater than the weight represented by the adaptation level. Adaptation levels change as a function of such factors as the frequency of presentation of new stimuli, their intensity, size, nearness, emotional impact, and interest or excitement value for the individual.

Using adaptation theory notions, we might expect that initial data which are fed back and which are either extremely upsetting or extremely rewarding may be reduced in their impact over time. Also, careful attention will need to be paid to the "yardsticks" teachers use when receiving feedback, i.e., if they have rather wide tolerances for deviant behavior either in their own teaching or in student behavior, much important data will be overlooked which still fits within their tolerances.

Selectivity. Once an attitude or set has been established a person responds to new phenomena within the framework of his established outlook. An excellent illustration is the early experiment of Allport, Postman (1945) in which a situation was perceived as reinforcing the original attitude when it was actually dissonant. Thus, a stereotype associating Negroes with carrying razors, led observers of a cartoon to think they had seen the razor in the hands of the Negro rather than the white man. Experiments with materials designed to bring about changes in attitude revealed that subjects did not hear clearly, nor remember well, communications which disagreed (Watson, Hartmann, 1939; Levine, Murphy, 1943). It is a common observation that people usually prefer news sources, whether in print or broadcast, with which they are in agreement (Klapper, 1960). By reading or listening to what accords with their present views, by misunderstanding communications which, if correctly received would not be consonant with pre-established attitudes, and by conveniently forgetting any learning which would lead to uncongenial conclusions, subjects successfully resist the possible impact of new evidence upon their earlier views.

Situationism. The Gestalt principle of perception insists that the way in which an object is perceived is determined by the total context or configuration in which the object is embedded. A recent experiment by Lake (1967) demonstrated that the way impressions of others are formed is a function which is salient to the individual, i.e., his needs and personality traits, and that which is relevant to the situation, i.e., it makes a difference whether the behavior occurs at a cocktail party or in a classroom. Murphy (1947) has also maintained that human beings respond as situations require them to respond; and that whatever their biological diversities, they will, if capable of learning, take on the attributes which the situations call for.

C. The Second Box

Another fundamental axiom of psychology is the axiom of psychological inertia: individuals tend to resist fundamental change. It is important to note that it is an axiom rather than a theory: it cannot be controverted by fact. So, for instance, when we observe that organisms tend naturally to seek new stimuli, we do not abandon the axiom of psychological inertia: we say rather that one of the inertial features of the psyche is its tendency to seek a certain amount of new stimuli. The axiom of inertia is, like its physical counterpart, correlative with the other notions of determinism and explanation: things cannot happen in the determinate world without being caused; causes, in order to have effects must do some work; all work involves the overcoming of resistance. In the feedback model, this resistance is pictured as box 2. The change signals have to overcome resistance on their way to the static mechanisms. The resistance is not uniform, in the sense that all signals encounter the same amount. They encounter resistance, however, in proportion to their strength. That is why we said above that feedback loop simulation is inappropriate to certain goals: if the changes required to achieve certain objectives are too profound, the system will not work. At best, the system will remain static; at worst, the "fuse will blow" and the resistor will burn out. When that happens, the system ceases to be describable, and therefore ceases to be predictable, and therefore ceases to be amenable to further rational control.

The SCE should keep this second box in mind, and bring to bear his knowledge of the work of those psychologists who have studied it. Its importance is not to be underestimated. Notice that "all of the forces which contribute to stability in personality or in social systems can be perceived as resisting change." (Watson, 1966)

Homeostasis. Some of the stabilizing forces within organisms have been described by Cannon (1932) as "homeostasis". The human body has a built-in regulatory mechanism for keeping fairly constant such physiological states as temperature or blood sugar. Within recent years, some theorists (Cartwright & Harary, 1956; Festinger, 1957, Heider, 1958;

Osgood & Tannenbaum, 1955; and Rosenberg, 1960) have suggested that there are also psychological phenomena which act in a way to bring our perceptions and attitudes and behavior into a balanced state. For Festinger, a state of cognitive dissonance is said to be a state of psychological discomfort or tension which motivates efforts to achieve consonance.

In-so-far as the perceptions being processed are in balance with attitudes and beliefs already present, then we should expect no change in behavior.

Habit. Most learning theory has included the assumption that unless the situation changes noticeably, organisms will continue to respond in their accustomed way. In fact, repetition of a response is often used as a criterion of learning. Gordon Allport has introduced the term "functional autonomy" to refer to the fact that activities first undertaken as a means to some culminating satisfaction often become intrinsically gratifying. As Watson (1966) has said, "The familiar is preferred."

Primacy. The way in which the organism first successfully copes with a situation sets a pattern which is unusually persistent. In fact, there is some research which suggests that present teacher behavior is often a function of two primary experiences. First, a teacher may presently teach as her most liked teacher did, or her present behavior may just be repetition of early teaching patterns. As a principal once said of an "experienced" teacher, "Yes, she has one year's experience and twenty-five years of repetition."

Role. A role is a social function assumed by a person. It is contingent upon his being a member of a group. Certain perceptions of a teacher's role may tend to stabilize behavior and make it resistant to change. For instance, if a teacher is perceived to be a giver of information, that conception of a teacher's role will block any attempts to shift a particular teacher toward roles which require him to be a manager of instructional materials or a guide to inquiry.

Low ego strength. "The strength of the ego is a matter of how much energy is available to it." (Sanford 1966, p.81) The stronger the ego, the more effectively it will perform its functions; hence indices of ego strength are measures of the adequacy of performance in various spheres of activity. Accuracy or perception, objectivity, judgement, common sense, tolerance of ambiguity, self-insight, initiative, persistence, competence in solving problems, tolerance of frustration, flexibility of adaptation, ability to learn from experience, etc., are all indicators of a fully functioning ego. Persons with low ego strength will typically find ways of warding off new data regarding ability to function and will act in such a way as to protect their behavior from being influenced by data feedback.

Saving face. Every person lives in a world of social encounters, involving him either in face-to-face or mediated contact with other participants. Goffman (1955; p.226) claims, "In each of these contacts he tends to act out what is sometimes called a line -- that is, a pattern of verbal and nonverbal acts by which he expresses his view of the situation and through this evaluation of the participants, especially himself. The term face may be defined as the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact."

Saving face may be an important intervening variable between the teacher and the source of fed back data whether a supervisor or an SCE. It will be important for the additional participant in the feedback situation to help reduce the need to save face by sharing his positive regard for the other.

D. The Change Box

Balanced against factors producing stability are forces toward change.

Change. Most psychologists recognize that change can come about as a function of new information, as a function of either changes in the needs of an individual or changes in his cognitive system. We focus on the individual's cognitive system rather than on particular pieces of information, since the same bit of information can cause quite different changes in different cognitive systems. While new information by itself does not always bring change. Given these two conditions, we must suggest that there are conditions within the "black box", the processing of new data, which control readiness to be open to new data.

Needs. Psychologists since before the time of Freud have insisted that organisms have basic and learned needs. For instance, there is the need to obtain food and water. Needs must be gratified; those behaviors which result in the procurement of food and water will be replicated -- learned.

The need structure of the particular teacher involved in a feedback situation may help to determine what sorts of feedback will lead to change. For instance, the feedback situation is visualized as occurring between two or more individuals and if their relationship is important to the feedback process, then we might expect that insofar as either the giver or receiver of feedback is using the relationship to meet needs other than those germane to the system task, it will create noise in the feedback loop.

It is important to note that in order to reduce such noise, both the receiver and the giver of feedback must have enough sources of satisfaction and security in their lives to forego the temptation of using each other for the pursuit of personal satisfaction or security.

Three needs which on face value would seem to be very important to the feedback as it applies to teacher behavior are those of the need for achievement, the need for affiliation, and the curiosity need. McClelland (1951) has shown in a number of clinical and experimental studies that at very low levels of motivation the individual experiences simple wish fulfilling desires; with an increase in strength of motivation there is a "push" to reality. At extremely high levels of motivation, reality orientation will decrease and defensiveness will increase. In the feedback model described here, it could be expected that initial data regarding teacher performance which suggests a discrepancy between his level of achievement and his own predetermined potential to achieve will result in increases in the motivation to achieve. Increased motivation to achieve will, other things remaining equal, result in behavior change.

When he considers the motivation to achieve, the SCE should remember that the task of diagnosing obstacles to achievement should be managed by the achiever. All too often those attempting to help (in this case it might be the SCE) too readily define the meaning of adequate achievement, and the obstacles which stand in the way of achievement. Argyris (1965) claims that when this is done by the outside helper it can only lead to psychological "failure". The person receiving the help has not gained the crucial skill of diagnosing what the obstacles are and has not improved his capacity to determine how to increase his achievement.

People everywhere seem to derive a considerable amount of satisfaction from associating with, or just being near, other persons. Teaching as a profession in the typical self-contained classroom forces the teacher to meet affiliation needs with other much younger persons. To the degree that the teacher has other outside sources of affiliation this will not be problematical. However, affection is a component of affiliation and therefore we should expect that the teacher would want children to like him. Similarly, the interaction between the SCE and the teacher might be a source of affiliation-want satisfaction.

Finally, man is a curious animal. Many developmental studies have demonstrated that exploratory behavior exists at an early age and persists. The curiosity want is closely related to man's insistent search for knowledge. Some changes in a teacher's behavior may simply result from his need to know and find better ways of teaching.

Now, since each of these needs will exist in different strengths, different individuals will respond either more rapidly or slowly to feedback depending upon their relative need strengths.

It is also possible that mutual diagnosis of the teaching situation by the teacher and the SCE may help both to understand it as an arena in which some of Maslow's (1962) higher needs of belongingness, esteem, and self-actualization may be fulfilled.

If wants and needs are the sources of motivation, the self and role concepts are the organizers of motivation. To the degree that need fulfillment is seen as self-fulfilling, they will be pursued openly and with vigor. Whether the needs are seen as self-fulfilling will depend in large part upon the reference group norms that an individual uses for comparison. The self is a product of social interaction and tends to be defined in terms of group membership. This suggests the need to think of changing teacher behavior through feedback as a process embedded in a school faculty's normative system which will have to be reckoned with if feedback is to be useful.

Cognitive systems. The degree and manner in which changes in wants and information produce changes in teacher behavior may depend upon his own pre-existing ways of ordering his cognitions. For instance, Bieri (1956) has shown experimentally that people differ in the degree of complexity of their cognitive systems. Some people order phenomena primarily in simplex patterns such as insisting upon one cause for one event; others are able to bring much diversity and many determinants into a single causal relationship. One teacher may assume that a child will "never learn" because he associates the child to lower class ignorance. Another teacher will see these same factors as only partially determining his ability to learn and bring many other forces to bear upon the learning situation.

In a related phenomenon, teachers' expectations actually alter behavior. Teachers may believe that boys are more adept at quantitative behavior and girls more adept at verbal behavior. With such beliefs they may in very subtle ways communicate their expectations. Similarly, Rosenthal (1968) has shown that teachers will tend to expect and obtain better performance from children whom they believe have high I.Q.'s (Even when they have been given false information regarding these I.Q.'s.) Our cognitions of children, like our cognitions of objects, tend to change in the direction of increased consonance. New information tends to be accomodated in such a manner as to remain consonant with our pre-existing cognitions. All this suggests that information received in the feedback situation will, when perceived to be dissonant, be short-lived unless appropriate attention is given to revising the cognitive system in which it will be embedded.

Summary

This paper has attempted to present an explanation of a general systems model with special emphasis upon the property of feedback within that model. In addition, the general model has been adapted in order to summarize social psychological theories and experimental studies which have implications for changing teacher behavior utilizing feedback concepts.

Issues which have important implications for the SCE in relating to teachers and modifying their behavior through feedback include: (1) developing a framework to use in observing teacher behavior; (2) developing credibility between the SCE and teacher; (3) operationally defining predicates; (4) the scalability of predicates and considerations for using feedback with long and short-term objectives; and (5) the idea that general systems theory would provide a useful way for both the SCE and teacher to understand how feedback can modify behavior.

In this paper the specialist is expected to teach the teacher the systems model and to use it in improving teachers' performance. This model gives a teacher a new way to talk about his goals and to analyze what is necessary for their attainment. The authors offer particular cautions or suggestions to the specialist: they stress the importance of (1) making sure teacher can define "clues to target area" or goals; (2) being seen as helpful -- minimizing activities undertaken solely to meet the specialist's own needs; (3) having a range of ways in which to collect feedback data in the classroom; (4) knowing how to collect data which are relevant to goals; (5) knowing factors influencing the decision of what data to select for feedback to the teacher; (6) recognizing teacher's resistance to changes; and (7) using social-psychological knowledge in effecting change. Many specifics are given for conducting the SCE's role. For example, the authors advocate the SCE letting the teacher both define what constitutes adequate achievement and identify the obstacles to this achievement.

The generality of the theoretical framework developed here should be useful in modifying any behavior through feedback strategies.

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SELF-CONFRONTATION of TEACHERS

By

Richard A. Schmuck[1]

INTRODUCTION

The purpose of this paper is to describe some psychological processes that can be expected to occur when teachers are asked to confront the quality of their own classroom performances. The basic procedure of self-confrontation is that teachers are presented with information about their actual performance in the classroom, and these data are compared with their ideals or goals. The primary assumptions underlying such a strategy are that there will often be discrepancies between the ideal and the actual performances and that being confronted with these discrepancies will motivate teachers to change their classroom behavior. This paper describes some theories and research findings about self-confrontation of teachers and suggests actions that a Specialist of Continuing Education might carry out to focus teachers' energies on changing their classroom practices. The Specialist of Continuing Education, hereafter abbreviated SCE, serves small groups of teachers as a catalyst to stimulate continuous teacher improvement through supportive group interaction.

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Knowledge Does Not Mean Changed Behaviors

Although increased knowledge may lead to wisdom, it often does not lead to new behaviors. Behavioral change is a very complex phenomenon involving cognitive change, emotional involvement, and behavioral trials. A major issue in the self-confrontation of teachers is helping them to connect new insights with revised actions in the classroom. The teacher may understand a discrepancy and may even wish to reduce it, but he may not be able to try out new ways of behaving in the classroom for a variety of complex psychological reasons. Some of these reasons will be explored below.

First, consider an example of teachers with new knowledge who were not able to also change their classroom behavior. Recently, I engaged psychiatrists, clinical psychologists, and social workers to consult with teachers on classroom mental health (Schmuck, 1968). After fifteen weeks of consultation, the consultants generally agreed that significant and positive changes occurred in many of the teachers. Perhaps the most striking change was in teachers asking one another for help. Early in the year, many teachers reported they were ashamed to ask for one another's assistance. The teachers were generally discouraged or indifferent about staff relations. But after the consultations, many teachers had formed a strong group feeling, had a new sense of challenge and interest, and were using one another outside the sessions to talk over problems, trade materials, and respond to new ideas. Some teachers who had decided early in the school year to give up teaching changed their minds as they noted how much colleague support they felt.

Another general direction of change in the teachers was toward a more differentiated examination of their standards and attitudes, and accepting a greater variety of student behaviors. One consultant noted that his teachers showed more interest and ability to deal with individual differences. Another commented that a number of students had been perceived by their teachers as being disturbed, but that during the course of consultations this was changed to perceiving the students as more energetic, restless, and child-like than disturbed. Some teachers were seen as reaching a stage in which they could examine their own behavior as a factor in creating undesirable behavior in their students. Other teachers spoke less judgmentally of students and parents at the end of the consultation and instead were more likely to explore their own relationships to their students. Some began to sort out their own needs from those of the students, while others noted publicly that "problem students" often ceased being problems when a teacher extended special help, affection, and arranged for some success.

Along with obtaining the reports of the consultants, I also measured changes in the teachers' conceptions about themselves, ways of categorizing students, and conceptions of positive mental health in the classroom. Two skilled raters who had no contact with the consultants scored the results of the questionnaires without knowing whether the teachers being rated were in the consultation or comparison groups. Another questionnaire for teachers queried them on how they might handle a variety of problematic situations in the classroom.

Data collected from the teachers generally indicated positive and significant changes during the school year in their perceptions of self as teacher, their cognitions of mental health, and their views on how to work with problematic classroom situations. The data on categorizing students did not change greatly during the year; however, the data, in general, indicated that the consultations had altered many teachers' cognitions related to successful teaching.

I also asked the students to complete four questionnaires in the fall and spring. These measured students' perceptions of informal group processes in the class, students' attitudes toward school and self, students' sociometric relationships, and students' attitudes toward academic work.

An overview of the results of the questionnaires filled out by the students indicated that positive and significant changes did not occur in the consultation classes. The students' attitudes toward school and self did not improve in either the consultation or the comparison groups. The informal group processes appear to have remained about the same throughout the year, except for some evidence that helpfulness increased in the consultation classroom groups.

The cognitive and attitudinal changes that occurred in the teachers were not accompanied by behavioral changes that made a difference in their classrooms. The teachers grew in their intellectual awareness about inter-personal relations in the classroom and in their willingness to explore new ways of handling them, but they did not, in fact, make major shifts in their classroom behaviors. Any behavior changes that did occur, as reported by the consultants, were probably short-term and motivated out of desires to please the consultants. The group processes, in the classrooms, by and large, remained unaffected by the consultations.

A number of psychological processes intervene between new cognitive insights and changed behaviors making it difficult to build effective linkages between the two. One of these processes has to do with how clear the goals are that the individual teacher holds. Partly, because of the many day-to-day pressures on him, the classroom teacher often manifests a maintenance orientation toward the classroom; his major task is viewed as keeping the classroom group functioning smoothly. Teachers' educational goals often are conceived in very general, abstract ways or perhaps not thought about much at all. Discrepancies between the teachers' goals and his perceptions of his actual performance can and often do create dissonance that serves as a motivating force for improvement. When goals are unclear, however, it is difficult to know when one is falling short of his objectives. Moreover, even when the teacher does have clear goals, discrepancies will not arise if he lacks skill in measuring the actual state of affairs in the classroom. Little constructive motivational tension is felt when either the ideal or the actual condition is unclear. The SCE must first address himself to this issue of helping teachers clarify their ideal and actual classroom performances. After such clarity is present, we can then begin to help teachers lessen the gap between their ideal and actual performance.

THEORETICAL POSITION

Dissonance and Anxiety

Festinger (1954) has argued that each person has a drive to evaluate his own abilities. This drive is viewed as producing behavior that is oriented toward obtaining an accurate appraisal of one's abilities. For most teachers, I assume that there exists a desire to want to know how well they are doing in the classroom. The behavioral manifestation of such motivation occurs when teachers attempt to evaluate their performance by getting feedback from others, most often this is done by getting feedback from students by way of tests, spoken statements, or non-verbal cues.

Festinger also argues that there is a drive upward for abilities. People want to keep improving their skills. It seems that in Western culture, at any rate, there is a value set on doing better, and doing better usually means achieving a higher score on some performance measure. If, for no other reason, teachers would be expected to seek ways of improving their classroom behaviors because such striving is culturally valued.

I expect teachers to strive to assess how well they are doing in the classroom and subsequently to attempt to improve their performance. Put in another way, teachers have some idea of where they want to go or be behaviorally in the classroom and have a desire to learn where they are in relation to where they want to be. We can refer to these two states as their ideal and actual performance states. Moreover, I assume that teachers want to change their actual performances to bring these more in line with their ideals.

Festinger's theory of cognitive dissonance (1957) and the related concepts of cognitive balance and congruity (See Zajonc, 1960) are useful analytic tools to apply here. Festinger's theory states that a dissonant relation exists between two things which occur together, if, in some way, they do not belong together or fit together. The theory attempts to account for what happens when a dissonant relationship exists between two cognitive elements. In the case of teachers experiencing self-confrontation, dissonance occurs between their ideal and actual performance states, at least when each of these two states is conceived with some clarity by the individual teacher.

Dissonance is posited as being psychologically uncomfortable. It gives rise to activity which is aimed at reducing or eliminating it. According to Festinger, successful reduction of dissonance is rewarding. I would predict that teachers will find it desirable to reduce discrepancies between their ideal and actual performance states, not only because this is culturally desirable, but also because it would be psychologically desirable.

Dissonance Gives Rise to Anxiety

Teachers confronted with discrepancies between their ideal and actual performance states will be in a state of dissonance which will give rise to anxiety. The magnitude of the discrepancy and the value the teacher places on his classroom performances will influence, to a great extent, the amount of anxiety experienced. Although defined in various ways, anxiety generally connotes a condition of observable agitation accompanied by such physiological observables as sweating palms, increased heartbeat, and verbal statements of unpleasantness. Anxiety must be taken into consideration as an important psychological process involved during the self-confrontation of teachers.

In psychoanalytic theory, anxiety is described as a signaling function which warns of impending danger and enables one to exercise preventive measures in order to avoid the experience of intense pain. Preventive measures generally are described as defensive reactions that take many forms and which may be used flexibly or rigidly. When the defenses available to a teacher are varied and flexible, chances are rather high that the teacher will be adaptive and strive to bring his actual classroom performance closer to his ideal. But when the teacher's defensive structure is rigid and limited, it follows that his defenses will usually be inappropriate and thus interfere with the self-confrontation process.

Psychoanalytic theory conceives of anxiety as unpleasant, as having physiological concomitants, and as being consciously experienced. In these senses, drive characteristics have been attributed to it and the theory argues that people will strive to avoid unpleasantness and to reduce the drive. In a similar vein, Hull's behavior theory, especially as subsequently interpreted by Taylor and Spence (1951), posits anxiety as a diffuse drive that has motivational characteristics. Anxiety is viewed as pushing persons to action and its reduction is assumed to be gratifying.

Even though the theories of Festinger, Freud, and Hull are quite different and in many ways conflicting, they do seem to form a common framework in our analysis of self-confrontation. We can assume with regard to the self-confrontation of teachers that:

.. If goals are clear and specific, there will be dissonance created by actual information showing a discrepancy between ideal and actual performance.

.. Discrepancies must be resolved. If adaptive rather than non-adaptive postures are taken, teachers will want to reduce the discrepancies between their ideal and actual behavior states by striving to move closer to their ideals.

.. Such striving will occur with considerable vigor when teaching is a central value and when the magnitude of the discrepancy is great.

.. When striving does occur with vigor, failures to move closer to the ideal state will produce anxiety in the teachers that can be handled in a variety of ways, some productive and some unproductive.

ANXIETY

Anxiety Influences Performance

Anxiety is viewed as having a definite influence on performance in virtually all learning theories. It is defined as a psychological and physiological reaction to stress which has drive-like qualities. Behaviors performed that reduce anxiety drives are repeated because of the rewarding function they perform in decreasing the discomfort. But anxiety influences performances variously depending on the amount of anxiety and the types of behavior being performed.

On simple tasks, for instance, it has been found that high amounts of anxiety generally facilitate performance. Spence and Taylor (1951) and Farber and Spence (1953) showed that anxiety positively correlated with ease of simple eye-blink conditioning. Spence and Taylor (1953) also showed that highly anxious subjects took longer to extinguish the conditioned response. These studies seemed to indicate that high amounts of anxiety facilitated simple motoric learning, especially motoric reactions requiring virtually no cognitive processing.

At the same time, it is also well accepted that heightened anxiety hinders the learning of more complex tasks, especially intellectual tasks. Beam (1955) showed that creating a stressful situation interfered with his subjects' ability to perform a task of learning nonsense syllables. Sarason and Mandler (1952) found that highly anxious subjects had lower scores on college entrance exams than did students with low amounts of anxiety.

The psychological principle, often presented to explain the relationship between anxiety and performance is the Yerkes-Dodson law which states that the optimum motivation (in our case, anxiety) for learning decreases with increasing task difficulty. In other words, motivation facilitates learning and performance only up to a point, the exact point depending on the nature of the task. High amounts of anxiety appear to be inappropriate for the kinds of performance shifts we hope to encourage in teachers through self-confrontation, although some level of anxiety appears to be necessary to facilitate an initial push toward change. Lewin described this optimal level of anxiety for change as unfreezing.

Anxiety as a Dynamic Process

Child (1954) has pointed out that anxiety is treated as a stable personality attribute in most psychological research. Anxiety seldom is viewed as a dynamic process with wide variances being aroused in persons depending on the situation. My view is that while anxiety may be a significant personality attribute, its variance is so great within the same individual that it is usually more fruitful to trace the effects of the situation rather than dwelling on the history of the individual. How much stress a person perceives in a situation, his expectations of success or failure, how much tolerance he has for dissonance, and the behavioral responses elicited by specific situational cues all appear to operate when he is said to be experiencing anxiety. These variables operate differently in the same individual depending upon the group climate and the demands of the task.

Even with this dynamic view, we can benefit from some review of studies that have viewed anxiety as a personality attribute. Most of these studies employed the Taylor Manifest Anxiety scale to characterize individuals as possessing some level of anxiety and measured the effects of the anxiety variable on the individual's performance on a task. A careful inspection of these studies offers useful information about the ways in which situational stresses give rise to anxiety.

As an extension of the Yerkes-Dodson principle, many psychologists have argued and some of their research has indicated that highly anxious persons perform poorly on the learning of complex tasks. Studies by Beam as well as Sarason and Mandler, already cited, bear this out. Sarason and Mandler (1952) followed up their initial investigation and found that while highly anxious subjects did more poorly on college entrance exams than low anxious students, the highly anxious students subsequently had a higher grade point average. They argued that the students with high anxiety had more drive and had learned how to focus that drive on college performance. Experimental situations, such as experiments in learning nonsense syllables, did not allow enough time or structure for the highly anxious students to focus their tensions and they therefore performed more poorly than the less anxious students. The long period of the semester allowed the highly anxious students enough time and structure to channel their energies in productive directions. Through the gradual coming to grips with daily living in college, the highly anxious students learned how to sort out and control the interfering aspects of their high drive states and to direct their energies to performing well in their subjects. Indeed, as Sarason states, the highly anxious person seems to perform well under favorable and supportive conditions of repeated and rewarded practice.

It appears to be a mistake to consider anxiety as a simple, unidimensional personality attribute. Moreover, it appears to be an oversimplification to consider all high anxiety states as being detrimental to the learning of complex tasks. The intensity of high anxiety states in teachers experiencing self-confrontation can be harnessed and directed toward productive change provided enough time is available and some structure is granted. Anxiety can become an effective psychological process for helping teachers to change their classroom behaviors. While the SCE can do much in structuring the situation to utilize the level of anxiety productively, he too should be aware of the variety of defensive reactions teachers may have in dealing with the anxiety created by the self-confrontation process.

Handling of Anxiety

The self-confrontation of teachers will lead to some amount of anxiety in every participant. Most teachers will react defensively to the unpleasant anxiety experience and the entire self-confrontation experience runs the risk of being terminated when the defensive reactions are strong. The following represent some non-adaptive defenses that teachers might employ to ward off anxiety. By non-adaptive I mean things that teachers may do without changing their actual classroom behavior.

.. Perceiving Ideal Performance States As Unrealistic

Even though teachers might consider some ideal goals such as individualized sequences for reading or active participation in small discussion groups as highly desirable, they may argue quite convincingly that such ideal events are impossible with the kinds of students or school setting with which they have to work. They might say that one can not use individualized reading sequences when over half of the class is disturbed, or it is impossible to use small group discussions when the students are undisciplined and irresponsible. Defensiveness is present when ideal states lack specific target significance for teachers and therefore call for little striving for improvement. The teachers' anxiety is reduced by freeing them from any focus on personal ideals that are not being achieved. The SCE may help the teachers to focus on a target for improvement by not finding fault with their defensive reactions. For instance, in the case of defensiveness about individualized reading, he might suggest that the teacher initiate a trial program for those students who can work well independently and then to try the program with other students as it gains prestige in the classroom group.

.. Perceiving Information About Actual Performance States as Invalid

Perhaps the most frequent way of reducing anxiety about deficiencies in one's actual performance is to view the feedback itself as somehow invalid. For example, if a teacher is presented with the results of questionnaires filled out by his students, he might view the data as lacking real significance because his students could not understand the questions. He may also argue that the data were collected on a particularly poor day when the students were frustrated about circumstances not under his control. In this instance, the data are viewed as having limited validity because of the situational circumstances within which they were collected. Some teachers may raise the even more sophisticated critique that data should be collected several times over several weeks to reveal reliable measures of the true feelings of the students. And of course they may be correct. Anxiety about one's own performance can be reduced by seeing the information one receives about his classroom behavior as being invalid. The SCE could handle these criticisms in several ways, perhaps by suggesting another data collection or by asking the teacher which findings, if any, he would agree are close to the truth and then by encouraging him to work with those.

.. Perceiving Information About Discrepancies Between Ideal and Actual Performance States As Being Typical for All Teachers

In this case, teachers reduce their anxiety and the need to change by viewing dissonances as states of affairs generally true for all classroom teachers. A teacher may not deny the importance of the ideal or the reality of his actual performance when discrepancies are revealed to him, but he might feel that such discrepancies are inevitable and a basic part of teaching. Such a resigned view can often reduce the desire for improvement and keep anxiety about one's own performance at a very low level. Again, setting a target point which would be possible to achieve could be helpful while agreeing that some discrepancies are inevitable.

.. Perceiving Actual Performance States As Pursuing Ideals Not Previously Stated

A frequent defense among classroom teachers is to argue for the worth of what they actually are doing by introducing an idiosyncratic set of ideals. For example, although a great deal of direction and control by the teacher may not encourage and elicit high student participation, it can be viewed as teaching students responsibility and how to listen. Elaborate arguments can be presented by teachers on the kind of world that the students will face when they leave school, thereby generally confirming the actual performances in the classroom as worthwhile and helping to reduce anxiety about falling short of other significant ideals. Helping teachers to become explicit about their own goals by rank ordering them may help focus their energies for improvement in a constructive way.

An extension of this reaction is to agree that in one sense the actual classroom performance is not leading to a stated ideal; while in another sense, it is. So, for instance, some teachers might discuss their classroom performances as involving a planned strategy. They might argue that a good deal of teacher control will measurably frustrate the students, leading to rebellion which in turn will encourage them to work more on their own. Through such logic a teacher reduces anxiety by viewing many of his actual performances as being in some sense connected to important ideal states. Alternative strategies for reaching certain goals may help teachers adopt more effective strategies for achieving their desired ends.

Anxiety Directed Toward Behavioral Change

Optimal amounts of anxiety are useful in helping teachers to change their classroom behaviors provided their defensive reactions are handled adaptively. Some research reveals additional practices that an SCE might employ in directing teachers' anxieties away from defensiveness toward useful and productive changes in behavior.

Waterhouse and Child (1952) have studied variables that reduce effective learning and task performance under conditions of high anxiety.

Their major variable has been frustration; frustration that psychologically interferes by eliciting responses that are different from those required by the task. Subjects who showed low tendencies for frustration performed better on a set of complex tasks than subjects with high frustration. The subjects with high frustration exhibited a number of behaviors that interfered with their performance. They were fidgety, less able to maintain constant eye contact, and less able to stick with the task for long periods of time.

Interfering tendencies which arise out of frustrations are certainly true for teachers. The popular book, Up the Down Staircase, (Kaufman, 1965) presents living examples of the external administrative and bureaucratic demands on teachers. Realities of the classroom are that teachers are required to perform many frustrating maintenance tasks not directly associated with the education of students. Without strong administrative support for classroom innovations, teachers attempting to change will experience frustrations that will lead to interfering tendencies and greatly hinder any personal program of planned change (Chesler, Schmuck, and Lippitt, 1963). Administrative support should help to reduce the frustrations that give rise to anxiety levels too diffuse to be useful. The SCE should build supportive structures in the school organization in which the self-confrontation groups are meeting.

Additional evidence indicates that anxiety can lead to effective performance if persons are given opportunities to release their tensions. McKeachie, Pollie, and Spiesman (1955) found that college students who had an opportunity to comment on test items performed better on their multiple-choice tests than students who did not have a chance to write comments. Calvin et al (1957) in a similar experiment found that the greatest gains on achievement tests were made by the highly anxious students who were allowed to write comments on their tests. McKeachie and his associates theorized that the writing of comments helped to relieve the subjects' anxiety and to bring it to the optimal point where it was facilitating of the task performance. McKeachie also found that students who were given permissive instructions, i.e., "Feel free to comment if you wish," did better than those who were told to make comments. The permissive instructions seemed to allow the students to release some frustrations so that their drive level interfered less and moved closer to an optimum point. Students who were required to write comments were more frustrated by those demands and were less effective in their test performance.

When anxiety levels are high in the self-confrontation group, the SCE should allow group members considerable leeway in being able to comment on their feelings. Also, an attitude of permissiveness will be helpful in relieving some of the frustrations felt because of large amounts of dissonance between ideal and actual performance states in the classroom.

Other research indicates that "gripe sessions" can reduce the debilitating effects of anxiety. Hoehn and Saltz (1956) found that "gripe sessions" involving highly anxious college students and their teachers helped the students' classroom performances. At the same time, the "gripe sessions" decreased performance levels of the students with low amounts of anxiety. The sessions seemed to have relieved some of the frustrations of the highly anxious students so that they were better able to direct their heightened drives. The students with little anxiety were not aroused by the "gripe sessions" and their already low drive level was not raised.

Other studies have revealed similar results. In one, H. Smith (1955) found that students with high anxiety and low achievement motivation were well satisfied with classes in which teams of students worked together. Anxiety levels appear to be reduced through contacts and discussions with fellow group members. D. Smith (1956) found that students who are highly open to change and also highly anxious do better in reading courses that are significantly and deliberately structured by the teacher. The theory to account for this is that heightened states of anxiety and personal permeability give rise to very diffuse behaviors not focused specifically on the task at hand. Imposed structure is helpful to guide this diffuse state into specific channels. The SCE who notices that the teachers in his group are very agitated and confused by the dissonant feedback received should offer a few steps to follow as guides for reducing the discrepancy between ideal and actual performances. At the same time, he should be aware that the offering of structure to highly anxious persons can lead to dependency on him and a lack of curious searching and creativity (Sarason, 1960). The SCE should remember that although structure may be required to reduce highly diffuse anxiety states, the structure should be gradually removed as the teachers feel more secure and less anxious.

For teachers who experience low amounts of anxiety with dissonant information about themselves, much different strategies should be employed. Mandler and Sarason (1952) have shown that subjects with low anxiety perform better on complex tasks when stress is induced. They induced stress in three ways, all of which lead to improved behavior on the part of low anxious subjects. They presented the subjects with immediate information about their success or failure on a task; they expected subjects to finish the task in an allotted period of time; and they attempted to get the subjects highly ego-involved in the task by telling them that their performances measured individual aptitudes. Under these same conditions of stress, the highly anxious subjects experienced confusion and were unable to perform effectively. However in their replication, Sarason, Mandler, and Craighill (1952) found that as the period for learning was prolonged performances became better for the highly anxious subjects.

Specialists who perceive their teachers as experiencing low amounts of anxiety because of falling short of their ideals might more actively give feedback about success or failure to them, might more tightly schedule the sequence of training with clear expectations for performance changes at specific dates, and might work toward increases in the self-involvement of the teachers in the program by having them manage more of it themselves. For highly anxious teachers, the SCE may predict that such stress will be confusing and reduce effective performance at first. However, as the research cited above has shown, highly anxious subjects can perform effectively under stress if they are allowed additional amounts of time for their learning to take place. Unfortunately, there is no research available on the optimal time required to get highly anxious subjects to perform well under stress. From experience with teachers in both pre-service and in-service training settings, I would expect that at least several sessions of searching, defensiveness, and general discomfort and agitation before more constructive attention can be granted to reducing discrepancies between their ideal and actual performance states.

Suggestions for the SCE Concerning Anxiety

The foregoing sections on dissonance and anxiety have shown that anxiety will be a natural consequence of exposing teachers to discrepancies between their actual and ideal performance states in the classroom. Psychological theory and research argue that learning and changes in performance occur most effectively when anxiety is at some moderate level. Although individual differences can be quite varied with regard to the optimal level of anxiety, most persons seem to perform best when they experience moderate amounts of anxiety. This means that the SCE should attempt to lower anxiety levels of very tense and agitated teachers and to raise the tension in groups of teachers with low amounts of anxiety. No easy answer can be presented as to how to raise or lower anxiety, but some suggestions can be made.

Let us begin with a discussion of highly anxious teachers. When anxiety is high, the frustrations experienced interfere with effective task performance. Even though the person may wish to improve his own classroom performance, his inner experience is in turmoil. He is confused and unable to concentrate on the discrepant data. He will have a strong desire to remove himself from the painful situation and might deny the discrepancy or at least think about other things to keep from being confronted by his inadequacies.

What might highly anxious teachers be like? I would expect that neophyte teachers with a lack of a clear picture of themselves as teachers would not be very secure in their jobs and would experience high amounts of anxiety if confronted with discrepancies in their performances. On the other hand, I would expect teachers who have been comfortably doing about the same things in their classrooms for many years also to experience high levels of anxiety. Naturally, other characteristics such as self esteem and rigidity also are significant, but some information about the career position of the teacher and how the teacher typically has performed in the past can be very useful to the SCE attempting to guess how anxious the teachers in his group might be.

More immediate signs of anxiety can also be observed by carefully noting the members' reactions to discrepant feedback. Such manifestations as sweating palms, heavy smoking, fidgety movements, frozen expressions, and tense or jerky body movements can be indicators of internal tension. Other, more verbal, manifestations would be making irrelevant points during discussions which tend to lead the group away from the confrontation, expressing negative attitudes toward the school or the program, indicating emotional distance from the SCE or from the other teachers, and expressing cynicism about the worth of such an endeavor as self-confrontation. Highly anxious teachers, in other words, will behave in ways that interfere with the self-confrontation itself and which frustrate other members of the group in their attempts to move on.

As the SCE is confronted with signs of high anxiety, he should take special pains to reduce the tension. From the psychological research, two major points seem to be relevant here and to suggest appropriate actions for the SCE.

.. Highly anxious teachers should be allowed to express their tensions in a permissive, supportive, and structured environment.

Most teachers strive to improve their classroom performance, but at the same time, information about one's inadequacies in the classroom can be disconcerting. Large discrepancies between ideal and actual classroom performances especially for committed teachers will lead to high anxiety. My experience indicates that most teachers are the best judge of the level of anxiety that they themselves can handle. The SCE should provide a leadership role that offers an open and supportive relationship and allows, indeed that expects, each teacher to find the best ways of changing his own classroom behavior at his own rate and in his own style. However, this does not mean that the SCE should perform only a very permissive, non-directive, laissez-faire role. Indeed, most research on anxiety indicates that highly anxious persons do very poorly in overly unstructured settings. The SCE should lead in a structured manner, always allowing for open expressions and changes in direction, but at the same time maintaining a firm approach to guiding the group systematically through the self-confrontation process. For some highly anxious teachers such a structured leadership style might call for a very specific listing of steps that the teachers might take to change their classroom behaviors. Although the content in such a list would be elicited from the teachers, the SCE would suggest and implement the process of completing the list. For other highly anxious teachers, the SCE might suggest weekly meetings with a subgroup of fellow teachers to talk generally about what is happening in their classrooms and what can they plan that will happen next. The SCE, in other words, sets the framework and encourages movement through it without supplying the content and without badgering or belittling the teachers.

.. Highly anxious teachers will react dependently and should be supported in gradually moving toward independence.

Highly anxious teachers will reveal their dependency by seeking out other persons, especially persons with status such as the SCE, for the support of their ideas and actions. They will not give significant weight to their own ideas and skills. The SCE should allow for and support expressions of dependency until anxiety levels have been reduced and the comfort and security levels have increased. But it would be a serious mistake in strategy to allow group members to remain dependent on him as the self-confrontation process progresses. The SCE should strive to build independence by arranging for sub-groups of from two to four members to meet and to work on projects outside his presence and by encouraging teachers to work out their objectives and strategies for change individually and to receive feedback about their projects from the other teachers.

Working with teachers who experience only meager amounts of anxiety because of self-confrontation may be quite a different matter. Less seems to be known about the psychodynamics of low anxiety than about high levels of anxiety and therefore research offers little assistance in these suggestions to the SCE. In general, I would not predict that many educators have low anxiety levels about their own performances. They have already indicated rather high drive levels and concern about their own competences by having completed college. Moreover, the educational profession appears to attract persons who are striving to improve their social statuses and who are concerned about their performances. Nevertheless, some persons with low anxiety levels will no doubt be present in teacher groups and the SCE should plan for this.

Available research indicates that persons with low anxiety levels need external inducements to reach a more optimal drive level for effective learning. Whereas the highly anxious teacher will reduce his drive state by responding with a great deal of irrelevant behavior, the teacher with little anxiety fails to pursue improvement actively because of low interest and little tension for change. It appears the most effective things an SCE can do to raise anxiety levels is to increase his statements about the success and failures of the teachers in the group, to specify target points for completing the tasks of the group which limits the time available for change, and to increase involvement in the group by asking individual teachers to discuss publically the discrepancies between their ideal and actual performances. The SCE can afford to be more confrontative in a group of teachers with little anxiety, but he must always be aware of the potentiality of dependency and guard against its arising by increasing tension in the group through peer interaction rather than only pursuing confrontations between teachers and himself.

OTHER PSYCHOLOGICAL PROCESSES

The anxiety that is created during self-confrontation represents the core problem for the SCE. Moreover, it is reasonable to assume that high amounts of anxiety will be more likely to occur than low levels of anxiety in teachers experiencing dissonance about their own performances. It should be helpful, therefore, to describe some other psychological processes that may exacerbate or positively moderate the debilitating ramifications of high anxiety. The most significant processes seem to revolve around the self-concept, rigidity motivation for success, fear of failure, expectancies of success, and the incentives available for improving one's classroom performance.

Teachers' Self-Concepts

Doris and Sarason (1955) found that highly anxious subjects in a failure situation were pessimistic about their future performances and tended to blame themselves for failures, whereas low anxious subjects more often placed the blame on external conditions if their performance levels were unsatisfactory. Elsewhere, Sarason (1960) has shown that highly anxious persons often hold very strongly negative evaluations of themselves. Under conditions of tension, highly anxious people lack curiosity, are restrictive and controlled, and are generally lacking in self-confidence. These results, derived mainly from research on children, are believed to be true most significantly with persons who do not have a complex, highly differentiated view of themselves. Thus, persons who think of themselves with only a few simple categories are more threatened by anxiety and are less able to cope with criticism of their own behavior than persons who see themselves in complex ways. This seems to be because persons with a self-concept that is simple and undifferentiated tend to dichotomize threat into high or low or present and not present. Also, since according to Osgood's et al studies (1957) on how people consider a variety of objects or ideas, evaluation is a pervasive factor. I would expect teachers who are simplistic to have self-concepts that largely revolve around the use of a "good-bad" dimension. Such teachers would be threatened easily because, under tension, a very large part of their self-concept could be perceived as "bad."

Although, as adults, most teachers possess highly differentiated self-concepts, many teachers may not think of themselves in a differentiated way as teachers. The sub-identity one holds of himself as a teacher grows out of experiences in that role, especially out of interpersonal experiences in the school. Dissonant information about one's performance in the classroom will strike hard at the teacher's self-view if the classroom experiences have not been varied or frequently changed. Because of this possibility, the SCE should attempt to support teachers in achieving a more differentiated view of themselves as teachers as well as attempting to raise the teachers' levels of self-esteem.

Indeed, Canon (1964) has shown that a person's level of self-confidence is positively associated with how willing he is to be exposed to dissonant information. The less personal confidence Canon's subjects had, the greater was their preference for consonant material, i.e., information that generally agreed with their own point of view on the subject. Subjects, on the other hand, who were highly confident perceived dissonant information (that which disagreed with their own position) to be useful and preferred receiving it to more consonant material. I would expect from these findings that teachers with high levels of self-confidence will be better able to cope with dissonant information about themselves and indeed might search out such information. Teachers with low self-confidence will be more defensive about confronting themselves and will prefer to emphasize consonant data about their classroom performances.

Another study indicated that changes in the self-concept have an effect upon intellectual performance. Benjamin (1950) in a study of 48 high school students asked the students to rank themselves on their own intelligence level, administered an intelligence test, and then gave false reports on each person's score which were one level above or below the individual's predictions. Later, he administered another form of the same intelligence test. He found that scores collected during the second administration of the intelligence test changed in the direction of the falsely reported ranks for 35 of the 48 students. Students, who thought they did better than expected on the first test actually performed better on the second test, and students who saw themselves as having performed poorly on the first test did less well on the second. These findings point to the interactive character of the self-concept and overt performance and show the need for the SCE to work on increasing the teacher's self-confidences.

The SCE leading a group of teachers through self-confrontation should be sure to increase the self-confidence levels of the teachers involved before offering large amounts of dissonant data. An activity that may raise members' self-esteem in self-confrontation groups is a "strength" exercise, sometimes referred to as an "up with people" activity. Each teacher spends time thinking alone about his own strengths as a teacher and the strengths that he knows about in others in the group. No admissions or observations of weaknesses are allowed. The time spent alone is followed by a general sharing of perceptions on strengths. It is important to emphasize strengths viewed in oneself as well as in one another, and for the group to discuss every person so that strengths are identified for everyone.

Rigidity of Behavior

Rigidity, the tendency to persist in similar responses when they are no longer appropriate, generally, has been assumed to be related to anxiety, as a defense or as non-adaptive behaviors to relieve high anxiety states. While this assumption seems to pervade the clinical literature on anxiety, there is little research to bear this out. Wesley (1952) studied the relationship between manifest anxiety and rigidity and found some similarities, e.g., more time required to extinguish a response, but no statistically significant findings. She attributed this to the short duration of the experiment and low number of subjects and did not reject the hypothesis of a relationship between the two.

Much of the ambiguity in the research about rigidity is the lack of a clear definition of the term. Whereas anxiety has often been operationalized by the use of the Taylor Manifest Anxiety Scale, there is no single operation of rigidity used in the variety of studies about it. In fact, Applezweig (1954) researched three measures of rigidity used in previous studies and found no significant relationships among the instruments. It seems that researchers are not studying the same phenomena when they use the term, rigidity.

The literature also contains persistent arguments between those who view rigidity as a stable personality attribute which is generalized over a variety of situations (Rokeach, 1948) and those who view rigidity as a personal reaction to the stress involved in the situation (Cowen, 1952 and Parkes, 1963). Ainsworth (1958) has attempted to resolve the difference in a way consistent with my view of a dynamic, situationally determined personality. He introduced the concept of insecurity to bridge the gap between the two schools of thought. He tested two hypotheses by using problem-solving techniques developed by Luchins (1942), and found that the generally more insecure an individual felt in his daily life the more rigid he became in a problem-solving situation. Ainsworth's assumption was that the person carried over a general feeling of insecurity to problem situations and perceived the situations to be stressful which then in turn gave rise to anxiety and rigid behavior. This finding was partially borne out by Kempler (1962) who found that low self-confidence, or insecurity, in math lead to rigid behavior in mathematical problem solving. Kempler's finding was consistent with findings presented above on self-esteem. A teacher who perceives a situation to be threatening because of a low self-esteem, low confidence or insecurity will tend to attack problems in old ways even though those ways have not been successful. It may also mean that the person insecure in math will be rigid because he does not have many behavioral alternatives open to him. A problem requiring algebraic formulations cannot be easily solved by someone who has not had experience in algebra and does not have that skill within his behavioral repertoire. Teachers with low self-esteem in teaching may not have many behavioral alternatives to choose among so that information on different ways to solve problems in the classroom may be very helpful in loosening them up for change.

Ainsworth also tested the hypothesis that the rigidity of behavior would increase proportionately to the amount of stress introduced in the situation. This hypothesis was not borne out by his research. In other types of experiments, however, Cowen (1952) and Parkes (1963) did find that increased amounts of stress lead to increased rigidity in problem solving. The studies were carried out very differently with rigidity and stress being defined and operationalized differently so it is difficult to compare their findings. However, from these varied types of research, we can draw some general conclusions. When teachers perceive a situation as very stressful or threatening, they might be highly anxious and unable to think clearly so they will revert to old patterns of behavior even though such behavior will often be unsuccessful. The most salient factor about rigidity is the person's inability to change his behavior even in the face of continued failure. One such "rigidity syndrome" I have seen among teachers is "bellowing" or shouting to restore discipline in a classroom. I have never talked to teachers who felt this was an effective means of discipline, yet they still sometimes resort to such behavior under stress. Loss of self-esteem and stress can make any of us temporarily "lose our cool" but it can be a recurrent pattern among some teachers. The SCE might help such teachers to diagnose their classroom situations so such stress is anticipated or he can help them to search for new alternative classroom behaviors while attempting to raise their self-esteem to reduce their patterns of rigidity.

Some Basic Motives

A teacher's self-concept is also significantly related to the satisfactions he receives in the motivational areas of achievement, affiliation, and power. Emotional experiences during self-confrontation sessions can become problems when any of these motivational states are frustrated. Frustrations occur when the teacher perceives a discrepancy between his ideal level of achievement, affiliation, and power and his actual experiences with these three states. Typical negative emotions resulting from frustrations of these motives are feelings of inferiority, worthlessness, being put down, loneliness, betrayal, lack of interest and dullness. Such feelings, in turn, prevent teachers from making maximum use of their potentials whether emotional, cognitive, or motoric. Put in the terms of self-confrontation, such feelings will decrease the likelihood that the teacher will be able to cope with large amounts of dissonance and anxiety about his performance.

As the teacher's feelings of personal achievement, being liked by others, and being personally influential increase, willingness to expose oneself to discrepant information about one's own teaching will increase. Although it is impossible to arrange a self-confrontation group to eliminate completely such emotional frustration, it should be possible to bring about supportive group norms and procedures that will mobilize emotional states for productive ends. The SCE should attempt to make available means of gathering feedback during the change process so that teachers can have a sense of getting somewhere, of achieving a goal. He can also plan to satisfy affiliative and power needs by helping to maintain a warm and friendly atmosphere in the group and by allowing members to influence the directions the group takes.

Achievement Motivation

An important motivational process that has a bearing on the self-confrontation of teachers involves the striving for achievement. Teachers with high levels of achievement motivation will likely be amenable to trying out revisions in their classroom behavior. They are characterized by realistic levels of aspiration for themselves, the desire to be involved in taking risks with their own classroom behavior, and the preference for accurate feedback about how well they are doing. Teachers with little achievement motivation, on the other hand, resemble persons with high levels of anxiety. Raphelson (1957) discovered that the need for achievement is negatively correlated with anxiety. In his studies, subjects who had low tendencies to strive for excellence feared failure greatly and also were highly anxious. Indeed, he argued that a strong fear of failure is accompanied by high levels of anxiety.

Sears (1940) showed that the setting of levels of aspiration is related to past experiences with successes and failures. She tested upper elementary school students on their arithmetic and reading performances and made estimates of the time needed to complete a page of work. Those students who experienced failure set their levels of aspiration at unrealistic levels, either too high or much too low. This unrealistic group could be characterized as having a high fear of failure. They viewed their future performances in self-defeating ways. Either they set the limits of the situation so that they would certainly succeed or so that they couldn't possibly succeed at all. Those subjects who set realistic goals were the same ones who had success experiences, both in immediate circumstances and the distant past. Atkinson (1957) and Cohen (1954) also have shown that very low and very high levels of aspiration are associated with self-rejection, fear of failure, and high anxiety.

The SCE can try to decrease feelings in the teachers of inferiority and failure by encouraging them to set realistic levels of aspiration. This can be accomplished by asking the teachers to specify their goals in the classroom in clear, behavioral language (See Mager, 1962). Then, small groups of teachers can share with one another the ways in which they have stated their goals. The SCE should ask members of these groups to check on each other's level of reality. Statements of goals should be changed until most members of the small groups agree that each teacher's goals are realistic. The SCE can help the groups to work constructively by prefacing their meetings with examples of overly ambitious goals and unrealistically low goals. He can also facilitate constructive discussions by offering group members some observation categories to guide the feedback they give to one another.

The SCE can attempt to decrease high levels of anxiety in his group by lessening the fears the members experience for failure and by increasing the hopes for success. Hope for success, which is an important ingredient of achievement motivation, involves setting realistic levels of aspiration and taking risks that can be achieved. In such cases, situations become rewarding rather than painful and are looked forward to with some optimism. Atkinson (1956) has shown that pride of accomplishment is the most significant reward received when a hoped for goal is achieved. The SCE should attempt to overcome high levels of anxiety by helping teachers to set reasonable goals for improvement and by training them to seek feedback that will help them confirm their accomplishments. The pride that is experienced from even a minor gain in performance should lead to stronger achievement strivings which will in turn reduce the destructive fears of failure that inhibit improvements.

Atkinson and his associates (1956) have developed a broader theory of motivation that can be applied to the self-confrontation process. Three variables are viewed as being involved in predicting how individuals will act in any given situation. The theory states that the tendency to act is determined by a motive force, an expectancy factor, and an incentive value of acting, all put together in a multiplicative relationship. Following this theory, the tendency for a teacher to modify his classroom performance would be a function of a motive for achievement multiplied by his expectation of successfully pulling off the change multiplied by an incentive or reward for accomplishing the change. Thus, the SCE should attempt to increase the expectancy and incentive variables along with his attempt to raise the achievement motivation of the teachers.

Hemphill (1961) has reviewed four studies which lend support to the notion that expectancy and incentive are important determinants of change. Although Hemphill's studies involved leadership performance in small groups, they do have indirect bearing on teacher's changes in their classroom behavior. He showed that persons who previously had been successful subsequently attempted leadership more often. Their expectancy for success was raised by the previous reinforcements that they had received. In another experiment, Hemphill varied the amounts of reward received for completing a group task and found that members of groups with high incentive attempted more leadership than persons in low incentive groups. Put in the framework of our teachers, I would expect teachers to attempt more changes if changed behavior is significantly rewarded. Such rewards can be supplied by incentive pay being granted to participants in self-confrontation groups, by receiving affective support and praise from colleagues in the group, and by achieving some level of prestige by presenting them new practices at teacher conferences or to other teachers in the district by newsletters or demonstrations. Whatever particular vehicles are chosen for raising the achievement motive, expectancy of success, and incentives gained for changing, the SCE should be aware that those three variables are crucial for changing teachers' performances.

MAKING SELF-CONFRONTATION INTRAPERSONAL

Teachers would be most likely to attempt to improve their classroom performances if they themselves experience a discrepancy between their ideal and actual performances. In order for self-confrontation seminars to be successful, this discrepancy would be internalized and optimally would arise out of the teachers' own curiosity about his classroom performance. Furthermore, the teachers would be able to change their classroom performances more effectively if they experience moderate amounts of anxiety about their performances and if they are able to control the kinds of feedback they receive and the sorts of change processes they follow in reducing the anxiety. Teachers also would be able to modify their performances more constructively if they possess self-confidence, set realistic goals for change, and hold high hopes for success. Some steps and tools should prove useful to the SCE who attempts to help teachers to internalize the self-confrontation.

A procedure for increasing the scientific problem-solving abilities of the teachers should be useful in attempts to internalize the self-confrontation process. The scheme involves five rather detailed stages (Schmuck, Chesler, and Lippitt, 1966). First, each teacher is asked to define a classroom problem in a very concrete way, making provisions within his problem statement for his own involvement as well as his feelings about the problem. The problem should be stated in concrete and behavioral terms. A booklet by Mager (1962) should be helpful in guiding the teachers to make clear and concise statements. For the next step, a field of forces analysis is prepared (Coch and French, 1948). The teacher must initially reconsider his problem in terms of a goal state this is not being reached. A problem is defined as falling short of some ideal goal, as a discrepancy between ideal and actual states. In the force field drawing, a horizontal goal dimension is drawn with an ideal state at the right and its negative counterpart, the least desirable state, to the left. A vertical line is drawn perpendicular to the goal dimension to represent the point believed to be reality at present. Facilitating forces which are pushing toward the ideal state are drawn on the left of the vertical line. Restraining forces are drawn on the right. Theoretically, the facilitating and the restraining forces balance one another, and therefore the vertical line is in equilibrium. If facilitating forces are taken away, the equilibrium will move to the right, toward the ideal.

Other teachers in the self-confrontation group can help think up forces along with the teacher, but it is important for the teacher to go beyond theory and guess-work and to collect data directly from the students about the problem. A set of tools have been prepared for helping teachers to diagnose their own classrooms (Fox, Luszki, and Schmuck, 1966). It is also well to keep in mind that data from students will have a more positive effect on teachers than data received from any other source. In a well-executed experiment by Tuckman and Oliver (1968), student feedback led to a positive change among teachers, while feedback from supervisors produced changes in a direction opposite to the feedback. In another experimental condition, supervisor feedback added nothing to student feedback when it was combined with it; indeed, feedback from supervisors tended to detract from the feedback received from students. I think that self-confrontation is most likely to be internalized if the teacher decides on what data to collect on his classroom performance and if those data are collected from his students.

The third step in the problem-solving sequence is for the teacher to "brainstorm" ways of increasing the facilitating forces on decreasing strength of the restraining forces. Somewhat more emphasis is put on reducing restraining forces because such a procedure is more likely to support effective change. Brainstorming involves thinking up many different, and sometimes wild, ideas without evaluation. Again it would be valuable for the teacher to involve his students during this phase. After the brainstorming is exhausted, the teacher with the problem, along with his students, should judge which ideas are feasible and which ones they should forget about now. Both brainstorming and force field analysis encourage a norm of seeking a variety of solutions before making a decision for action.

The fourth step involves actually trying out some new procedure for solving the problem, primarily an activity aimed at reducing restraining forces. A helpful procedure to employ prior to trying the new action out in the classroom is to role-play it in the self-confrontation seminar (Chesler, and Fox, 1966). Other teachers in the group can give consultative assistance, and if it is appropriate, facilitate some improvements in the new activity before it is tried in the classroom. Finally, the fifth step of the problem-solving sequence involves the teacher's soliciting feedback from the students about the effects on them of the new practice.

SUMMARY

This paper describes some psychological processes that occur when teachers are confronted with discrepancies between their ideal and actual classroom performances. Simply presenting teachers with information about such discrepancies does not, in and of itself, seem to lead to constructive changes on their parts. This is partly because teachers confronted with discrepancies in their classroom performance experience a state of dissonance which gives rise often to anxiety.

Although most teachers have desires to reduce these discrepancies, their anxiety, if high, may interfere with the change process. The intensity of high anxiety states in teachers can be harnessed and directed toward productive change provided enough time is available and some structure is granted. Nevertheless, non-adaptive defenses may be employed toward warding off anxiety. Some of these defensive reactions are: (1) perceiving ideal performance states as unrealistic, (2) perceiving information about actual performance states as invalid, (3) perceiving information about discrepancies between ideal and actual performance states as being typical for all teachers, and (4) perceiving actual performance states as pursuing ideals not previously stated.

Optimal amounts of anxiety can be useful in helping teachers to change their classroom behaviors. Research indicates that when their anxiety is high teachers should be allowed considerable leeway in commenting on their feelings. While an attitude of permissiveness will be helpful in relieving some of these frustrations, some structured guidance may also be required to reduce highly diffuse anxiety states. Structured guidance in the form of steps to move through to reduce the discrepancies should gradually be removed as the teachers feel more secure and less anxious. The two major points about teachers' anxiety are that (1) highly anxious teachers should be allowed to express their tensions in a permissive, supportive, and structured environment, and (2) highly anxious teachers will react dependently and should be supported in gradually moving toward independence.

Other psychological processes either exacerbate or positively moderate the negative ramifications of high anxiety. The significant processes include self-concept, rigidity, motivation for success, fear of failure, expectancies of success, and the incentives available for improving one's classroom performance.

Information about discrepancies between actual and ideal performances can threaten a teacher's view of himself as effective, especially when his self-concept as a teacher lacks complexity and differentiation. Attempts should be made to support teachers in achieving more varied views of themselves as teachers, while at the same time emphasizing their current strengths in the classroom.

Rigidity is revealed during the self-confrontation process when the teacher is unable to change his behavior even in the face of continued

frustration and failure. When teachers perceive a classroom situation as very stressful or threatening, they might be unable to think clearly and might revert to old patterns of behavior, even though such behaviors often are unsuccessful in reducing the gap between actual and ideal performances. Under stressful conditions, teachers should be helped to diagnose their classroom to anticipate the stress or be helped to search for new alternative classroom behaviors. Emotional experiences during self-confrontation can become problems when any of the motivational states of achievement, affiliation, or power are frustrated. Attempts should be made to satisfy the achievement motive by gathering feedback during the change process so that teachers have a sense of achieving a goal and by helping teachers to establish realistic levels of aspiration. Affiliation and power needs can be gratified by helping to maintain a warm and friendly atmosphere among the teachers and by allowing members to influence directions the group takes.

In order for the self-confrontation process to be successful, discrepancies between actual and ideal performances should be internalized and arise out of the teachers' own curiosity about his classroom performance. A problem-solving procedure can be useful in attempts to internalize the process. The procedure involves five stages: (1) problem identification through stating behavioral objectives, (2) problem analysis using force-field analysis, (3) brainstorming ways of reducing restraining forces, (4) planning designs for action, and (5) trying out the plans and soliciting feedback from students. Self-confrontation will be enhanced and more likely be internalized if the teacher decides as part of the problem solving to collect data on his classroom performance directly from his students.

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CHANGE AGENT STRATEGIES in PERSPECTIVE

By

W. C. Wolf, Jr.

PART ONE: THE SITUATION

Imagine yourself enjoying a summer vacation at an isolated mountain resort in upstate New Hampshire. You and about one hundred guests at the resort have just been introduced to a brand new rock-and-roll style dance by the Social Director. The dance -- let's call it the "Burp" -- was developed by the Director in association with several friends and resort employees. After the first evening, most guests understood the "Burp"; practically all were "Burp" enthusiasts within three or four days. Two months after the "Burp's" introduction, people throughout the New England and Middle Atlantic states were undulating and contorting in its name. Before the following Winter season passed, the "Burp" was being enjoyed coast to coast. And by late Spring, the dance was being frequently performed in London, Paris, and Rome bistros.

Now, why did the "Burp" capture the fancy of so many people so quickly? Since this is a hypothetical situation (but not out of line -- remember Chubby Checker and the Huckle-buck), we can make appropriate inferences about the phenomenon that transpired. A product, in this case an appealing dance, was introduced to a captive audience by the dance innovator. The product was enjoyable, free, easily learned, and readily transported. Hence, the target audience adopted it, used it at the resort, and presumably used it upon returning home. Three means of diffusion were thus initiated: first, the Social Director and his friends made the dance a regular part of their social repertoire and they performed the dance in the Northern New Hampshire environ; second, guests at the resort diffused the dance to their respective home communities and in effect created a snow-ball situation; and third, in all probability the Social Director was called upon to teach and to display the "Burp" in new settings (i.e., metropolitan night clubs, television shows, etc.). Each means described is informal in the sense that little, if any, effort was made to follow-up progress made by recipients of dance instruction. Yet, the dance profoundly influenced the behavior of people who enjoy performing and watching rock-and-roll dancing.

To recapitulate, a new product was offered to a captive audience by its creator. Since the product was easily utilized and proved to be extremely marketable, the captive audience bought it. Their acceptance was the initial step in an uncharted series of events which served to diffuse the innovation to appropriate, but unspecified, target audiences. And, its international popularity served as a measure of the degree to which knowledge of the dance was utilized. Several roles stand out in this process, namely, an innovator -- demonstrator, performers, and interested consumers. Here is an account of knowledge which has been successfully diffused and utilized. A model can be extracted from this account which is not at all complicated, but which might prove to be generalizable to other circumstances. Dance innovators, raconteurs, and innovative physical educators, for example, might profit from a knowledge of this simplistic model.

Unfortunately, most innovations worthy of wide-spread utilization demand diffusion strategies far more complex than those employed when popularizing the "Burp". Technical knowledge often is essential, and this calls for specialized personnel. Imagine the structure of models that represent the diffusion and utilization of the Salk polio vaccine, of hybrid corn, or of a specialized missile defense system. In each instance, knowledge of the innovation is essential for specialized personnel who intend to deal with it.

Merely building a better mousetrap will not bring the world of pedagogy to one's door. More is at stake than the better mousetrap if an innovator wishes to influence a designated target audience. Two examples are offered to support such a contention.

Two solutions worthy of adoption:

The first example pertains to the experiences and failures of Joseph Mayer Rice. Robert M. W. Travers aptly depicts the plight of Rice in the following manner:

> Rice was a physician by profession, but after a rather brief practice of medicine during the years 1881-88 became interested in problems of education and left for a two-year visit to Europe where he studied pedagogy and psychology at two great centers of educational thought, namely, Jena and Leipzig.

Rice undoubtedly came under the Herbartian influence as well as that of Wundt and in 1890 returned to America fired with a zeal for educational reform. Like most reformers, his immediate impulse was to tell the public in strong terms that the time for reform had come, and this he did in a forceful article picturesquely entitled "Need School Be A Blight to Child-Life" (1891). In this article he compared some schools he had observed in Germany where "education is regulated more or less mechanically." Perhaps the readers considered the comparison of German schools with American schools invidious. Public reaction was nil. To bring his case before an even wider public and to expand in detail on the need for educational reform he followed his article with a book entitled THE PUBLIC SCHOOL SYSTEM OF THE UNITED STATES (1893) in which he summarized the observations he had made on 1200 teachers located in various schools from Boston to Philadelphia in the East to St. Louis and Minneapolis in the Middle West. The book was hardly more successful than the article. Educators paid no attention to the opinions of a layman, who in professional circles rapidly became dubbed as a crackpot. Legend relates that he was met with jeers when he attempted to present his findings to a meeting of the National Education Association.

Like most reformers, Rice was a man dedicated to his cause. If his observations in the classroom were to be brushed aside as the worthless opinions of an amateur, then what he needed was a carefully collected compilation of facts. In terms of the mood of educators in Germany, from which he had so recently returned, this was to be not only the preferred, but also the only sound way of producing educational change. Thus in 1895 he set out to collect information about the skills of school children in arithmetic, spelling, and languages and to relate those skills to the way in which the children had been taught. On the basis of these studies he found that the amount of time devoted to spelling could be at least halved without any reduction in the level of skill which would be acquired. The results of his study of spelling appeared in a new article in the FORUM under the fetching title of "Futility of the Spelling Grind" (1897). Other articles presented data attacking other aspects of current teaching in the schools and finally the entire research enterprise was drawn together in a book entitled SCIENTIFIC MANAGEMENT IN EDUCATION (1913).

Rice's effort to produce educational reform had absolutely no effect on his contemporaries. The outcry of public indignation which he expected would

> arise as a result of the publication of his research never even reached the level of a murmur. Professional educators could not have shown less response to his findings and recommendations, for little reference is found to him in the educational literature of the period. Yet 50 years later one finds that most of the reforms toward which he had directed his efforts have been incorporated in education. Progressive education of the mid-30's might well have derived its charter from the writings of Rice in the mid-90's. One also finds 50 years later that it is still not the research scientist who brings reform to education.[1]

Unfortunately, Rice does not stand alone. Considerable scientific research has been reported in the professional literature since the days of Rice; yet, the impact of these practices seems to be slight.

The second example was called by Lewis M. Terman "one of the most important contributions thus far made to the problems of higher education in the United States." He compared this study to the Flexner report on medical education and practice. A bulletin describing the study includes this paragraph:

> The study is a landmark in the passing of the system of units and credits, which, useful as it was a third of a century ago, is not good enough for American education today. On a number of pages the Bulletin emphasizes the fact that the "package method" of academic advancement has served its purposes. American higher education appears to be well on its way to another stage of development in which promotion, at least in college, will be based upon "the attainments of minds thoroughly stored and competent". The authors urge that the student who is ready to go ahead be not hampered by traditional, formalized administrative conventions. Academic progress is to be governed by demonstrative achievements, rather than by the conventional time standards.

Can the reader use these clues to identify the study being discussed, and can he assess the study's impact upon contemporary education?

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[1] Robert M. W. Travers, "A Study of the Relationship of Psychological Research to Educational Practice," Training Research and Education, New York: John Wiley and Sons, Inc., 1962. pp. 525-527.

The study, supported and published by the Carnegie Foundation for the Advancement of Teaching in 1938 under the Title, The Student and Knowledge, focused upon the relations of secondary and higher education in Pennsylvania. William S. Learned and Ben D. Wood proposed (1) to fix attention primarily on the nature, the apparent needs, and the actual achievements of the individual student in his successful contacts with existing institutional forms; and (2) to consider the educational performance of school and college as a single cumulative process of which, for any given student, should be complementary.[2] Their investigation consisted of two parts: first, a comprehensive examination administered to 4,580 graduating seniors in 49 Pennsylvania colleges, presumably to depict the accumulated intellectual funds of the class of 1928; and second, a comprehensive examination administered to the graduating seniors of 1928 of the public and private secondary schools of Pennsylvania and to the 27,000 seniors who enrolled in institutions of higher learning within the state again in 1930 and in 1932 presumably to derive a measure of academic growth.

Their study, referred to as the Pennsylvania Study, was a valuable undertaking. It revealed the enormous differences among colleges and among students enrolled in specific colleges; it convincingly exposed the weakness of the course-credit system as a measure of educational achievement; it focused upon the inadequacies of teacher trainees in Pennsylvania colleges; and as the first state-wide evaluative testing survey, it set a new standard for systematic research inquiry.

Now, what impact did the Learned/Wood effort have upon involved educational institutions in Pennsylvania in particular and upon educational institutions in general that might be influenced by the evidence? Wood wrote in 1964 that the situation which was so dramatically exposed is still largely with us. "We still have colleges," he noted, "that regularly graduate classes that, in ordinary high school English reading and vocabulary tests, average at the senior high level, although there are many colleges whose freshmen stand entirely above the whole population of some of these low colleges."[3] Perhaps Wood criticized the impact of his study effort too severely.

Granted significant variability among given college populations continues, the course-credit system still rules the land, and institutional teacher training programs leave much to be desired. However, the research approach employed by Learned and Wood may yield serendipitous dividends in the hands of contemporary psychometrists. Society is placing more and more emphasis upon standardized, independently derived measures to determine a person's capabilities and performance level. As this approach evolves and matures, the calibre of college graduates, the course-credit system, and the training of teachers may be effected accordingly.

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[2] William S. Learned and Ben D. Wood, The Student and His Knowledge, New York: The Carnegie Foundation for the Advancement of Teaching, p. x.

[3] Matthew T. Downey, Ben D. Wood: Educational Reformer, Princeton: Educational Testing Service, 1965, pp. 21-22.

Here is an example of a study which was carefully planned and executed, which yielded significant information, yet which failed to alter the behavior of very many pedagogical practitioners. The account is used to focus upon the process of influencing or changing the practice of individuals within institutional settings.

Diffusion and utilization factors of importance:

These two examples of jobs well done illustrate the point that better mousetraps actually exerted little influence upon potential target audiences. Undoubtedly, many other similar experiences could have been selected to illustrate the point intended. Now, what must be done above and beyond the efforts of Rice, Learned and Wood, to modify the behavior of pedagogical practitioners? Analyses of fields that are routinely influenced and modified by scientifically derived information provide clues to the essence of their success. These fields try to incorporate all or part of the following practices:

1. A network of respected, believable knowledge producers;
2. A source of venturesome technicians and interpreters;
3. Facilities for field testing knowledge offered;
4. Well-defined and respected communication channels through which information is effectively offered to designated audiences;
5. An information storage and retrieval service;
6. A cadre of diffusion agents functioning at a grass roots level to insure that worthy knowledge is adopted;
7. Economic incentives for the adaptation of innovations offered.

Perhaps the fields of agriculture, medicine, and certain governmental agencies best reflect these characteristics.

When these seven practices are applied to professional education, one can readily perceive why innovations offered in that field are received in a haphazard manner. The field lacks reliable knowledge producers, interpreters usually prove to be graduate students who have other competing concerns, marketing strategies seldom are seriously cogitated, and information storage and retrieval is in a primitive state. No well-defined and respected communication channel exists to effectively diffuse innovations to appropriate target audiences. A cadre of diffusion agents functioning at the grass roots level is absent. And, practitioners are accustomed to adopting innovations offered without benefit of evidence of their effectiveness and without clear-cut comprehension of their implementation. These statements, taken together, account for the chaotic state of innovation diffusion and utilization in the field.

PART TWO: A PERSPECTIVE

CERLI envisions the development of a new specialized personnel role and its institutionalization within educational systems as one means of bridging the gap between innovation and implementation within the appropriate target settings. Hence, this organization is investing a major portion of its resources to develop a different kind of change agent, a specialist in continuing education (SCE), for the field of education. In this role, an SCE would work primarily with individuals and small groups of pedagogues in the place of practice.

The SCE position put forth by CERLI is based upon assumptions like the following:

1. it facilitates peer working relationships rather than either an authoritarian or evaluative relationship;
2. it introduces a definite intermediate linkage between knowledge generators and knowledge utilizers;
3. it encourages self-directed activity on the part of practitioners and creates a setting within which such behavior is rewarded.
4. it focuses upon goal directed activity on the part of practitioners;
5. it can obtain appropriate information, not generally accessible to practitioners, and bring it to bear upon problems being studied;
6. it makes possible a systematic approach to an individual's and a staff's professional self development.

In order to give perspective to the efficacy of an SCE within the education hierarchy, present knowledge diffusion and utilization practices must be reviewed. More precisely, knowledge about existing change agents, knowledge of the "psychology" of change, and knowledge about change hierarchies in social structures, can provide the perspective desired. A review of such knowledge and one application of it in practice is offered.

Knowledge about change agents:

Simply stated, change agents are individuals who appear to be effective in the facilitation of change. They are able to function as an integral part of a social structure, they are able to generate and sustain innovative activity within such a setting, they are able to involve and influence practitioners within the setting, and they are able to command salient aspects of the social structure's communication network, among other things. The role of a change agent may be clearly defined or it may be amorphous at best, and the agent may or may not be a part of the social structure to be changed.

For example, the available research literature reveals that social structures can be influenced by insider and/or outsider change agents. Insiders have influenced physicians' adoption of drugs (in this case professional friends), individuals' voting patterns (in this case "opinion leaders"), the behavior of practitioners in local school districts (in this case superintendents, principals and curriculum coordinators), and community health programs (in this case local health officers). Outsider change agents have been influential in disseminating new drug information to physicians (i.e., pharmaceutical house detail men), instructional materials and multi-media equipment to educational practitioners (i.e., publishing house and equipment manufacturing field representatives), and new practices, products and ideas to farmers (i.e., agricultural extension agents). Here are examples of change agent roles that are explicit (for example, the pharmaceutical house detail man) and amorphous (in this case, professional friends of physicians). Yet, both succeed in influencing the process of innovation adoption.

The part change agents played in the social itinerary of two innovations -- hybrid corn and a new drug called Gammanym -- has been carefully studied by two teams of researchers.* Their studies are similar in that they attempted to document deliberate "campaigns" to change opinions, attitudes, and actions of practitioners. Both focused upon a given new practice, time, channels of communication and social structure. Even though farmers and seed corn constitute the subject matter of one study and physicians and drugs the other, similarities in the findings of the two studies give strong support to a number of empirical generalizations. Among generalizations cited by Elihu Katz in an article about the studies that appeared in Human Organization are the following:

1. Salesmen were a key source of information in both studies.

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*NOTE: First reported in the following publications:

Bryce Ryan and Neal Gross, "The Diffusion of Hybrid Seed Corn in Two Iowa Communities" Rural Sociology, 8 (March, 1943) 15-24.

Herbert Menzel and Elihu Katz, "Social Relations and Innovations in the Medical Profession: The Epidemiology of a New Drug," Public Opinion Quarterly 19 (Winter, 1955-56) 337-352.

2. Interpersonal influence among colleagues is a key source of legitimation.

Here is a prime example that information wasn't adequate for adoption per se. The salesmen informed potential adopters about the innovations, but interpersonal influence among colleagues was a key source of legitimation. Both were needed for adoption to occur extensively.

Twelve brief sketches of successful innovators -- drawn from such diverse fields as agriculture, education, psychology, medicine, sociology, and organizational management -- are included in an unpublished manuscript edited by W. C. Wolf, Jr.[4] Careful study of the innovators' inquiry styles, their styles of diffusion, and the focal points (target audiences) of their experimental output, does not reveal clear-cut reasons for the apparent impact the twelve innovators had upon designated target audiences. These three factors, taken one at a time, wouldn't differentiate the twelve from many other sets of twelve quest-oriented scholars.

Take study patterns as an example of the amorphous behavior uncovered. Most of the twelve rely upon the acquisition of non-stochastic descriptive data to resolve problems. Furthermore, only four of the twelve regularly employ scientifically-conceived, stochastically-based, replicable inquiry methods. Given this reality, one is hard-pressed to ascertain just what occurred in the innovator's "laboratory" between two points in time.

Similarly, diffusion strategies utilized certainly are not terribly imaginative. The primary vehicles employed by nine of the twelve were publications and papers read at meetings. And, most of these communicative efforts were aimed at audiences of professional peers. Consequently, the initial target audience is usually small in size, removed from the nitty-gritty of daily professional practice, and not apt to offer systematic feedback information about the efficacy of innovations offered. Again, one is hard-pressed to ascertain just what occurred between the initial offering of an innovation and its subsequent adoption in practice.

Knowledge of the "psychology" of change:

An understanding of the forces impeding and enhancing the acceptance of change in schools isn't possible at this time. However, glimpses pregnant with possibilities can be gleaned from the available literature, and recent increased interest in education change by researchers give hope for more meaningful perspectives some day.

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[4] W. C. Wolf, Jr., On Diffusing and Utilizing Knowledge, an unpublished manuscript prepared in conjunction with an applied research training program.

Why such a pessimistic introduction? Because impediments to the diffusion and utilization of educational innovations are particularly frustrating. Impediments recognized by researchers include: (1) innovations seldom have high relative advantage, thus making the consequence difficult to evaluate; (2) innovation adoption decisions are collective in most educational organizations and thus are subjected to frequent confrontations with individuals and institutional sacred cows; (3) decisions are made about innovations without knowledge of prior field work, without a clear-cut perspective of appropriate target audiences, and without regard to the power structures active in target settings; and (4) administrators frequently exercise the prerogative of their position to make decisions about innovations. These and other impediments tend to diminish the generalizability of related research from other fields to the field of education, and they tend to discourage comprehensive empirical studies of educational change.

Even so, the available information provides some guidance for contemporary decision-making and some direction of subsequent inquiry. Vignettes of that which is known about the "psychology" of change are reported in the following paragraphs.

Some years ago H. G. Barnett offered two basic propositions about innovation and acceptance theory, namely:

1. that innovative potential is a function of analytical and resource potential;
2. that the acceptance of innovation is a function of dissatisfaction with the functional correlate of the proposed change.

One study in particular and a number of studies in general uncovered by the writer of this paper serve to substantiate these propositions; no contradictory evidence was found. Patterns of this sort may point toward the development of educational change models which are applicalbe to local school settings.

A number of investigators have attempted to isolate characteristics of innovative people. While much of their energy was expanded in fruitless inquiry, several common characteristics emerged from the work. The age of innovators and early adopters seems to have predictive utility -- that is, both are younger than most practitioners. Active legitimate participation in the change process is a second characteristic offering some predictive utility. Open-mindedness as measured by various psychometric tests seems to be a third. The level of technical knowledge appropriate to innovations being considered stands out as a fourth. And, individual placement in the social structure can be treated as a fifth characteristic. Exceptions to each can be found in the literature and in practice; so, their worth must be viewed with caution.

The previously mentioned hybrid seed corn and gammanym studies offer an excellent vantage point for validating such generalizations in that both attempted to isolate characteristics of innovative people. Innovative people were identified as early adopters in these two investigations. Farmer-innovators were young, whereas doctor-innovators were more likely to be in the young to middle age brackets; so, age checks out. Active legitimate participation certainly was true for both early adopting farmers and doctors. While open-mindedness wasn't ascertained there is no question for both groups of early adopters that emancipation from local primary groups was a prerequisite to the acceptance of the innovations. In addition, the innovative farmers evidenced an openness to rationality rather than tradition for decision making, just as innovative doctors revealed a scientific orientation to change. Both groups of early adopters enjoyed extensive connections with the outside world, so the technical knowledge requirement seemed to be satisfied. Finally, both farmers and doctors who adopted early had more education, higher incomes; hence, higher placement in the social structure is recognized. These studies seem to confirm the pattern set forth.

One additional observation from the studies is worthy of note. The early adopter of gammanym was a heavy user of drugs in the gammanym family prior to the appearance of gammanym. And, the farmer-innovator had considerably more corn acreage than later adopters. Perhaps this suggests the level of prior commitment should be considered as another factor.

One researcher, William J. Paul, Jr.,[5] argued that an innovator can be differentiated along personality dimensions. According to Paul, the innovator can be described as: (1) a sociometric isolate with a higher aspiration level than non-innovators; (2) unable to tolerate consistency and routine; (3) delighted by new and different things; (4) an adopter of innovations because of attention they attract; (5) impulsive about the adoption of innovations; and (6) younger in age with less formal education than non-innovators. This profile contradicts rather directly, evidence reported by other researchers (especially items one and six); even so, it is worthy cogitating.

Knowledge about change hierarchies in social structures:

Change involves substitution within practice, extension of practice, simple alteration or complex restructuring of practice, and revolutionizing practice. These changes may result in temporary shifts in practice or they may have enduring long-range influences upon practice. Given an innovation -- i.e., a practice, product, or process -- worthy of adoption, and allowing for the importance of the previously mentioned seven practices pertaining to diffusing and utilizing information effectively, it is possible to relate this innovation to factors considered to be important to the adoption process.

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[5] William J. Paul, Jr., "Psychological Characteristics of the Innovator," an unpublished dissertation completed at Western Reserve University in 1965.

Reconsider the diffusion and utilization of the "Burp". In this case the innovation was a practice offer by its inventor, an appealing practice in that it was fun, free, easily learned and readily transported. The inventor offered his practice to prospective clients in a captive setting, he was able to ascertain the level of client mastery of performance called for, and he was able to reinforce its continued use within the prescribed environment. Once the skill was established, the inventor could count upon continued usage beyond the captive setting.

Components of importance which can be gleaned from the account include: (a) a believable knowledge producer (he was able to display his innovation effectively); (b) interested clients who eventually performed a grass roots level diffusion function by virtue of their satisfaction with the new dance; (c) the entertainment multi-media network in existence; (d) characteristics of the innovation (fun, free, etc.); (e) the level of change required (in this instance simple substitution or extension); (f) an opportunity to field test the innovation; and (g) field conditions conducive to using the innovation elsewhere. Hence, an innovator, a simplistic innovation readily incorporated within one's behavior, a supportive try-out setting, capable practitioners, an entertainment multi-media network, and extensive facilities in which to utilize the innovation outside the site of invention, constitute components of importance to the diffusion and utilization of the "Burp".

If the innovation were more complicated, such as the Salk vaccine or a specialized missile defense system, other components would have to be taken into account. The development of the Salk vaccine, for example, must have required the blood, sweat and tears of venturesome technicians, evaluators, and marketing specialists; elaborate laboratory inquiry and testing resources; experimental animals and humans; and an efficient channel of communication to prospective target audiences. Its development and utilization satisfied a crucial social need. In this instance, (1) technicians, interpreters, and marketing specialists, (2) evaluation facilities, (3) experimental subjects, and (4) a carefully delineated channel of communication, are components which can be gleaned and added to the list associated with the "Burp". The social consequences of the Salk development are also decidedly different from those considered in conjunction with the dance discussed; consequently, social circumstance must be taken into account as an important factor.

When components associated with specific illustrations of change are studied for the purpose of extracting a set which may be generalized to many diverse situations, problems arise. For example, either social disorganization or clever marketing may account for the success of a given innovation. As diverse as these factors may appear, both deserve a place in the generalizable set under the category conditions for change. If an innovator effervesces a fair amount of charisma and if he is willing to delve into the applied realities of innovation diffusion and utilization, he will probably be more successful than innovators who lack charisma and a flair for application. Characteristics of the innovator are certainly important; yet, they are most difficult to delimit for study purposes. The complexity of an innovation dictates a number of subsequent requirements such as specialized personnel, training, resources, or facilities; the level of change called for; the formality of communication channels needed; and the investment of time and effort necessary to enable prospective clients to adopt the innovation. Fortunately, this component can be created more easily than the previously mentioned components. Finally, characteristics of the target audience need to be taken into account prior to the diffusion effort. In fact, detailed knowledge of the recipients ought to contribute vitally to diffusion strategies employed by innovators. Since little is known about educational consumer behavior at present, much baseline descriptive work is needed.

To summarize, conditions for change, characteristics of the innovator, the complexity of the innovation, and characteristics of the target audience seem to be overarching factors of importance to the adoption process. Within the context of each factor there exists an indeterminate constellation of sub-factors. These sub-factors are influenced by the complexity of an innovation offered, and can be delineated for study without too much difficulty. Further study may ultimately reveal universal sub-factors within each of the four overarching categories; however, the amorphous and speculative state of information about educational knowledge diffusion and utilization calls for more clarity before systematic efforts to uncover such sub-factors can be initiated.

Three recent educational innovations commanding much professional attention are viewed in the context of the adoption process described. They are PSSC, the SRA reading laboratories, and ERIC. PSSC called for complex restructuring of practice, the reading laboratories amounted to either a simple alteration or fairly complex restructuring of practice (most adopters fall into the former category), and ERIC offered an extension of practice. Each is detailed in the following paragraphs.

The Physical Science Study Committee

World War Two established science as an important bulwork of a free and open society. Hence, the increasing concern of scholars through the early fifties with the nature of secondary school physics instruction, a declining enrollment in college-level physics courses, and a shortage of scientific manpower, prompted Jerold Zacharias of M.I.T. to propose an alternative to conventional physics instruction. His proposal captured the imagination of the scientific community and generated millions of dollars of support from the National Science Foundation.

The development of Zacharias' physics curriculum for secondary schools can be divided into four stages:

1. Drawing the outline and developing the curriculum structure. This was accomplished at a meeting of some fifty scientists in 1956.
2. Establishing a steering committee. University professors, industrial physicists, high school

physics teachers, editors, and other individuals were assembled, then subdivided into five groups. Each group charted a particular developmental task for the project. One devised apparatus and experiments, while the other four drafted textual material. A package was completed by 1958.

3. Pilot testing the completed package. Pilot high schools were selected to try out the new physics materials. Committee members served as teachers in each experimental setting. These teachers and classroom visitors on the committees generated written reactions which served as a basis for program revisions. After two years of such feedback, the final version began to take shape. Descriptive rather than empirical information (most empirical studies initiated lacked rigor) was a prime product of the pilot tests.
4. Diffusing the new curriculum. No clear diffusion strategy seemed to emerge from the committee efforts. By and large they relied upon the scientific press and in-service institutes to diffuse PSSC to practitioners. Since the PSSC people were unable to control the training activities of the institutes, much variability transpired. And the institutes seemed less effective as a diffusion vehicle than former PSSC committee members.

Dr. Zacharias certainly possessed the charisma needed to effectively capitalize upon the social disorganization of science instruction in the early fifties. The innovation generated, a packaged high school physics curriculum, called for specialized training and purchase by potential users. The extent of PSSC adoption suggests the working committees were able to cope with the innovation's complexities. High school teachers of physics were prime targets for the package.

The SRA Reading Laboratories

The Science Research Associates reading kits were born out of economic necessity. In the early 1950's an imaginative teacher was faced with more pupils than instructional materials. He solved his dilemma by cutting up some available texts in the room and putting the pieces in the hands of many students.

The plan worked so well, the teacher modified the strategy and then offered it to a publisher, SRA, for marketing. The package developed at SRA was simple enough to be used by most teachers without formal training. Once ready for market, the reading kit was quite attractive, quite logical, and quite economical.

Marketing strategies included college class demonstrations, mailing announcements to prospective users, and personal contact by field representatives. These efforts were hampered by a lack of pilot test data, by a lack of understanding of the pluses and minuses of the kit, and by an uncertain awareness of the potential target audience.

The reading kits seemed to meet a teacher's instructional needs, so it was adopted. In this instance, the actual innovator wasn't as important as the marketing potential of SRA. The innovation wasn't very complicated and it could easily be incorporated within a classroom operation. Elementary school reading teachers were the focal point of SRA marketing operations.

ERIC

The Educational Research Information Center (ERIC) was created in early 1964 by the U. S. Office of Education to "facilitate and coordinate information storage and retrieval efforts in all areas of educational research". It reflected a need for a centralized information center in the area of education. Three USOE officials were instrumental in getting the system off the ground and operational. They were assisted by college and university officials who were awarded contracts to develop specific aspects of the network.

By 1967, ERIC consisted of a central management unit within the USOE, eighteen clearinghouses located on campuses across the nation, a computer contractor, an educational document reproduction service, and the use of the Government Printing Office. The ERIC system collects, screens, indexes, abstracts, and reproduces educational research reports. Two products result: "Research in Education", a monthly publication of research abstracts and an index of new reports; and, microfiche and printed copy of the complete reports.

ERIC is aimed at two audiences: the university research community; and, the nation's public school systems. "Research in Education" is now sold to about 3,700 users per month. An additional 1000 copies are distributed by the USOE. Sales of microfiche total one million plus bits in 1967; a four or five fold increase was anticipated for 1968. Standing orders for the entire ERIC microfiche collection, as of July, 1968, amounted to 115 (with an additional 60 within the USOE). About two-thirds of the standing orders were from colleges and universities.

No clear-cut strategies seem apparent insofar as USOE efforts to market ERIC are concerned. USOE officials speak extensively before education groups about the Center, and they have discussed it at length in the professional literature. And each ERIC clearinghouse distributes publicity, calls for papers, and in some instances regular newsletters to the public.

The conditions were ripe for the introduction of ERIC. Medicine had its "Medlar", the Department of Defense enjoyed DDC, and scientists could contact the FCSTI. Education followed in the footsteps of these existing information storage and retrieval systems. No particularly strong innovator emerged to guide the development of ERIC; rather, a number of people participated in its development. ERIC is a complex system, financed in a particularly complex manner; hence, the developmental period has stretched over three or four years. Even though two publics were identified as target audiences, these practitioners have hardly scratched the system's surface. If ERIC were a private rather than a public enterprise, bankruptcy would be staring it in the face today. ERIC has not yet been adopted by most potential users, but it is still an infant.

In retrospect, conditions were appropriate for the introduction of all three innovations. Only one of the three, PSSC was dependent upon the charisma and contacts of a strong innovator. Two of the three, PSSC and ERIC, were complex enterprises involving many people and agencies. And two of the three (PSSC and the reading laboratories) have had a noteworthy impact upon intended target audiences. It is too soon to judge the impact of ERIC.

Intensive study of each innovation revealed the above successes were not dependent upon empirically derived supportive information, they did not use systems approaches for their development, and with the possible exception of SRA's marketing plans for the laboratories, they were not systematically diffused. Who knows what impact might have been made were these innovations put in the hands of rural sociologists or pharmaceutical houses.

Rural sociologists, focusing upon agricultural change in America, can take credit for establishing the most extensive research foundation on knowledge diffusion and utilization in existence. No other field has so meticulously probed into elements of diffusion and utilization. Lionberger[6] identified eight categories of research activity which have been heuristically helpful in advancing the field's frontiers of knowledge about change. They are:

1. personal characteristics of the acceptor;
2. position of the individual (acceptor) in the social and communicative structure;
3. identification with membership in various types of formal, locality, kinship, reference, and clique groups and clique-like social arrangements;

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[6] Herbert F. Lionberger, "The Diffusion Research Tradition in Rural Sociology and Its Relation to Implemented Change in Public School Systems," in Wesley C. Meierhenry (ed.), Media and Educational Innovation (Lincoln, Nebraska: The University of Nebraska, 1964).

4. groups norms relative to the acceptance of the changes;
5. inherent characteristics of the change itself;
6. exposure to various types of mass media;
7. situational factors relating to the farming unit;
8. the role of change agents in the adoptive process.

In spite of such progress, the previously mentioned universal sub-factors aren't apparent. Nor is a viable theory of change based upon the available information. Much progress has been made, but much work still needs to be done.

Since the field of education has almost no empirical base of information about the process of change, generating such data and utilizing it seems to be a priority consideration for the field. Two problems must be resolved before action parallel to that of the rural sociologists can be realized, namely: who is best equipped to do the work; and how can their efforts be institutionalized?

Insofar as the "who" is concerned, present roles might be adequate for the task or new roles may have to be created. Individuals situated in a half dozen universities are responsible for most of the publications on knowledge diffusion and utilization appearing in the educational literature; curriculum coordinators, principals, and individuals employed by Title III of the ESEA of 1965, are beginning to perform duties comparable to those of agricultural extension personnel; and some private foundations and USOE sponsored regional educational laboratories are exercising middle man functions within the innovation - implementation spectrum. While these activities are desirable, too much energy expenditure still depends upon fortuitous whim. Perhaps the most effective way to facilitate innovation, diffusion, and utilization within the field of education would be to apply systems theory, under the guidance of systems analysts, to the task. For example, a systems approach would reveal deficiencies within present practice which could be alleviated by altered and/or new interface patterns. New roles might be one outcome of such investigation.

Institutionalizing individuals' industry seems to be a most formidable challenge, given the vastness and complexity of the educational enterprise. A dynamic scheme is called for at a time when fiscal resources to pay for the scheme are lacking. Several schemes have been offered, but little attention has been paid to them by educators.

David Clark and Egon Guba[7] offered a structure for institutionalizing change which involves: (1) gathering data; (2) inventing solutions;

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[7] David Clark and Egon Guba, "Effecting Change in Institutions of Higher Learning" University Council for Educational Administration International Intervisitation Program, University of Michigan (October, 1966).

(3) engineering packaged programs; (4) testing the packages; (5) informing others about the programs; (6) demonstrating the programs; (7) training the users; and (8) servicing and nurturing installation of the programs.

A similar structure set forth for organizational change by Ronald Lippitt[8] in an unpublished paper entails: (1) retrieving relevant research findings and theory; (2) identifying and adopting relevant experimental action models; (3) finding and becoming linked to trial innovations in other institutions and adopting valid results; (4) using an outside research team within the organization for analyzing the problem and providing feedback; (5) using internal diagnosis with the help of the organizational staff and an outside scientific consultant; and (6) using an internal training system for members of the organization's staff.

Given these suggested structures, their realization seems to be related to the nature of the educational power structure and the people involved therein. Innovation adoption stemming from the pleas of charismatic "opinion leaders", the crisis of a given moment, and the advantages of a given moment, is now the accepted practice. Few knowledgeable people condone it, but they tolerate it for lack of viable options. If alternative schemes like Clark and Guba's and like Lippitt's are to be taken seriously, influentials within the educational power structure must be motivated to act in behalf of the alternatives.

An application of knowledge about diffusion and utilization practices:

Perhaps a recent experience of the Institute for the Development of Educational Activities (I/D/E/A) of the Charles F. Kettering Foundation might serve as a parallel experience to CERLI's specialist in continuing education. I/D/E/A was conceived as an educational middleman, and it was structured with that purpose in mind. A research and development laboratory was established, a consortium of elementary and secondary schools recognized for their innovativeness was assembled, an innovative curriculum materials service was initiated, and a dissemination facility was set up. Each of these operations was designed to compliment the others.

The innovative schools consortium is of particular interest to CERLI in that these schools were the focal points of I/D/E/A efforts to introduce new kinds of professional roles into local school units. Among the roles specifically considered were a director of research and development and a director of demonstration and dissemination. It was believed the former could provide professional leadership in the refinement, evaluation and further development of innovative practice within the school (a division of analysis and evaluation was established within I/D/E/A to assist these directors and to coordinate their efforts). It was believed the latter could provide needed professional leadership in the extension of innovative practice to conventional schools and school systems (I/D/E/A planned to assist these specialists materially in the technical aspects of innovation dissemination).

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[8] Ronald Lippitt, "The Use of Social Research to Improve Social Practice", an unpublished paper presented to the Tarrytown Conference on Educational Development in October, 1965.

Special development services were to be provided by I/D/E/A directly to certain personnel in the cooperating schools. These included: workshops, seminars, and in-service training programs for individuals in the two new positions; the deployment of a corps of consultants to assist the consortium schools; and the development of a program of publications for the school consortium. I/D/E/A officials also believed most of the innovative schools would ultimately establish other new leadership positions such as: director of materials development and production; director of student teaching; director of school-community services; and director of international cooperation.

The elements of the I/D/E/A scheme, taken together, reflected most intelligent thought. Unfortunately, the plan has sputtered ever since its introduction within the consortium schools. How could such a coherent plan misfire at the operational level? Perhaps the following observations account for some of the sputters:

1. Most significantly, competent, well-trained individuals could not be found to fill the two new roles. Hence, available personnel were assigned to one or the other role with the understanding that in-service training opportunities would be provided by I/D/E/A.
2. The in-service training opportunities offered by I/D/E/A were not adequate, given the expectations for each of the new roles.
3. Not all of the consortium schools proved to be open, innovative situations; hence, little was accomplished in these instances.
4. I/D/E/A did not provide the back-up services needed by individuals in the two new roles to function effectively.
5. Cost involved in sustaining all of the plans set forth got out of hand and could not be controlled; hence, serious economy measures were forced upon I/D/E/A officials soon after the program was initiated.
6. Neither of the new roles was clearly defined in terms of performance criterion; hence, both roles were subjected to the whim of individuals occupying them.
7. The schools never really evolved as an integral, viable consortium, thus minimizing the possibilities for inter-institutional planning, cooperation, and support.

Here is a painful example of what might have been. It was conceived by particularly intelligent people, subsidized generously, and initiated in a generally receptive environment. Thus, only one of the conditions inherent in Harrell's[9] four phases of a process model for educational change -- that is, initiation -- was met. The second and third stages of his model, namely legitimation and planning for action, were not given due attention. And so the seeds of failure were sown within the fourth phase, the action phase.

PART THREE: THE SPECIALIST IN CONTINUING EDUCATION

Two documents made available by CERLI -- one dated September 15, 1968, and the other dated October 3, 1968 -- provided a detailed perspective of the specialist in continuing education. These documents afford a point of departure for analyzing and critiquing the proposed SCE's role in a school setting. After functions, cognitions, and perceptions of the role are summarized, they will be critiqued in terms of information presented in parts one and two of the paper.

The SCE role description:

Inherent in discussions of training programs for the SCE is a suggestion that he be a professionally competent individual. An assumption is made, based upon these discussions, that an SCE has prior training in education and also has served as an educational practitioner. Given such a starting point, a training program for SCEs will be offered to develop the following cognitions:

1. knowledge of theoretical principles pertinent to the SCE role.
2. understanding of theoretical and behavioral correlates of technical input to small group seminars scheme.
3. understanding of the scientific method in the context of educational research, development, training, and dissemination.
4. understanding of research pertaining to small group activity.
5. understanding of styles and techniques of leadership.
6. awareness of the nature of organizational systems.

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[9] Roger L. Harrell, "A Process Model for Educational Change -- Its Development and Use as an Evaluation Instrument", an unpublished dissertation completed at the University of New Mexico in 1967.

It is believed such a training program will enable a trainee to acquire the attitudes, knowledge, and skills to perform in the role of SCE.

Once on the job, an SCE must secure a fiscal base to conduct small group seminars over time. These seminars should result in an ongoing program of self-assessment and self-development. Through this means, an SCE may enhance educators' abilities to cope systematically with the social order's changing patterns. Specific functions of the SCE include:

A. Basic skills

   1. skill in conducting self-confrontation process, and in institutionalizing the process independent of himself.
   2. skill in institutionalizing scientific method -- specifying behavioral goal identification, mechanical skills of data acquisition, critical evaluation of data in terms of goals, and data utilization strategies.
   3. skill in helping seminar participants select, implement and evaluate innovations.
   4. skill in generating group norms supportive of change.

B. Conditional skills

   1. small group skills
   2. organizational skills

That a difference exists between teacher intentions and teacher performance is axiomatic. This discrepancy between the ideal and the actual becomes a subject for self-confrontation in the seminars.

The successful SCE probably will project an image consisting of the following:

1. he is change oriented.
2. he is goal oriented.
3. he respects the autonomy and integrity of others.
4. he communicates effectively.
5. he is small group oriented.
6. he utilizes self-assessment routinely.
7. he represents a model for problem-solving so teachers can learn by identification with him.

8. he uses the scientific method to evaluate behavior.
9. he is a resource person able to provide tested alternatives to practice.
10. he represents a school system most constructively.

He will be perceived by those around him as a strong, professionally competent person who occupies a significant place in his school system.

A critique of the SCE role description:

There are many advantages inherent in the SCE role within local school units. Such a role is compatible with roles in other fields recognized for effective knowledge utilization practices. If the SCE functions as anticipated: (1) he can overcome the four previously-mentioned serious impediments to innovation adoption within educational settings; (2) he can utilize what is known about innovative people within his small group seminars; and (3) he can generate empirical data about change within categories similar to those mentioned by Lionberger.

Wolf reported that successful innovator-change agent types do not usually rely upon empirical evidence nor do they employ particularly imaginative strategies to diffuse their innovations. If this observation is substantiated by additional study, the SCE may not find much empirical support for innovations available for use in his seminars. As an alternative, he may find himself driven by a priori logic, by an awareness of experiences trusted colleagues had with innovations in field applications, and by other unanticipated circumstances. He may even resort to the "craft and low cunning" that a successful innovator, B. Frank Brown, makes reference to in jest.

If structures offered by Clark, Guba, and Lippitt for institutionalizing educational change are ever taken seriously, the SCE is uniquely situated to function effectively therein. In fact, he represents the kind of competency needed to ultimately institutionalize such structures. Which came first, the chicken or the egg? That is a dilemma to be faced insofar as institutionalizing educational change is concerned.

The SCE role is certainly compatible with Barnett's two basic propositions about innovation and acceptance theory. He can easily ascertain the level of dissatisfaction with a given practice, and by definition he offers the analytical and resource competence needed to do something about the dissatisfaction. In addition, his awareness of recognized components of change suggests a more systematic approach to innovation adoption than current practice. Once the conditions for change are recognized, and the complexity of an innovation is comprehended, appropriate action can be initiated and followed up in target settings.

Among the disadvantages of the SCE role, probably the most disconcerting stems from the expectations held by the CERLI staff for this specialist. Too much competence and performance is anticipated; hence, few SCEs will meet the expectations. Rather than destine most SCEs to a neurotic professional experience, more realistic expectations should be developed and employed as a yardstick.

A second criticism is related to the initial point. If the SCE will command doctoral level competences, given options available to individuals with these competencies in today's labor market it is unlikely many good people will enter and remain in a low status position in which they spend a major portion of their time working with small groups of educational practitioners. If such a level of competence is essential to the role's success, then imaginative incentives must be conceived for successful performance over time in the role.

The SCE's location and status within the educational hierarchy will also prove to be a dilemma. If he really works with small groups of educators over time, the cost of his position to a district may be prohibitive. In fact, a number of SCEs may be needed in a given district if one proves his worth in that setting. An investment of that magnitude isn't easily sold either to a school board or to a community. Also, when a group of teachers are activated by an SCE, it is quite conceivable conflicts will occur. Middle-management personnel, top-level management, community leaders, students and other teachers may become a party to the conflict. A low-status SCE may be powerless to support the activist teachers, and thus may be adversely affected by the loss in terms of organizing other seminars.

If the SCE is a one-of-a-kind creature in a local school district, his intentions may be diluted by the usual brush fire emergencies which arise in all school settings. Unless he makes and nourishes contact with other SCEs in a region, he may lack a vitally needed quality performance indicator. Even with contact he may lack it. Thus, he may be cast upon the same rocks that undermined the professional roles of many school principals, school supervisors, school psychologists, and curriculum coordinators.

Finally, the title-specialist in continuing education-is deceptive. There now exists an adult education specialist, located in state departments of education, institutions of higher education, and local school districts, who quite often uses "continuing education" in his title. This prior title commitment may damage the image and performance of individuals entering the same arena with a parallel moniker.

PART FOUR: CONCLUSIONS

Using a priori logic, the experience and research of other disciplines and fields, and the sketchy available educational research evidence as a basis, one is justified to conclude that the field of education needs an SCE role. However, that same basis can be used to question many aspects of CERLI's conception of the role. A reasonable series of next steps, designed to resolve this conflict, would involve (1) incorporating as much of what is known about knowledge diffusion and utilization into a reconceptualized CERLI plan and (2) initiating field trials of alternatives stemming from the evidence to fill in gaps about what is known.

Educators interested in knowledge diffusion and utilization need to invest their energy analyzing fields that are routinely influenced and modified by scientifically derived information for clues that might be applied to education. Such accumulated wisdom might significantly alter the current chaotic state of innovation diffusion and utilization in the field. The following generalizations from these fields seem worthy of further inquiry by educators:

1. Specific individuals appear to be effective in the facilitation of change in a number of fields. These change agents are trained to bridge the gap between knowledge generators and knowledge utilizers. Education needs a comparable role.
2. While research dealing with characteristics of innovators hasn't been particularly fruitful, several factors -- namely, age, participation, open-mindedness, technical knowledge, and placement in the social structure -- seem to offer predictive utility.
3. Research activity directed at the knowledge user has been quite productive. Much is known about the personal characteristics, social status, membership affiliations, and external exposure of knowledge users. And, much is being learned about group norms in relation to the acceptance of change.
4. Conditions for change, characteristics of the innovator, the complexity of the innovation, and characteristics of the target audience seem to be overarching factors of importance to the innovation adoption process.
5. Carefully conducted research which offers significant information may or may not alter the behavior of intended knowledge users. If the information is related to interpreters, well-defined and respected communication channels, an information storage and retrieval service, change agent networks, and economic incentives for utilization, then, the probability of adoption is significant.

When these generalizations are related to CERLI's plans for the SCE, the following issues emerge:

1. What kind of change agent role is apt to be adopted by the educational community? Where will the agent be located and what status will he enjoy in the hierarchy?
2. What training and field experience will produce an agent capable of influencing educational change? How will the agent's performance in the field be evaluated?
3. What kinds of interface patterns -- involving knowledge generators, institutional influentials, and knowledge users -- should emerge to insure worthy use of the change agent? How should he function within this mix of individuals?
4. How much should the change agent know about a given target setting prior to initiating specific mechanisms for change? And, to what degree should he be able to focus inter-agency resources upon the target setting?
5. How much should the change agent know about innovations he intends to deliberately diffuse? To what degree should he be involved in field testing innovations selected for adoption?
6. What knowledge should the agent possess about research strategies, cost-benefit analysis, and systems strategies? To what extent should he be an initiator, coordinator, and director of such work?

While the experience and research of other disciplines and fields dealing with change is most useful, there appear to be problems concerning the applicability of change models, methodologies, and concepts from these sources to educational change. Often evidence gleaned from other sources is at variance with particular parameters of education. For example, public education is a bureaucratic structure with social motives and with a relatively intangible product, but fields such as agriculture comprise individual entreprenours with a profit motive who produce very tangible products. CERLI must accept the responsibility for generating baseline empirical information about their conceptual change agent role in the school context, because definitive information just isn't available to educators.

Given the frame of reference offered by the above generalizations, a portrait of an ideal SCE might assume these proportions:

1. He is an agent of the state, affiliated with an institution of higher education and possibly a USOE regional laboratory, serving a predetermined local school target audience.
2. His training will require specialized study beyond a bachelors degree and frequent short-term in-service training experiences.
3. He will focus upon the deliberate diffusion of one or a few innovations at a given period of time. Activity will be discontinued when a predetermined level of adoption has been attained and the specific diffusion effort has entered into a self-sustaining period.
4. Most of his work will involve initiation, coordination, reinforcement, and information acquisition activities. In addition, he may engage in continuing developmental work with small groups of practitioners, he may conduct studies of innovation diffusion or related topics, and he may help establish new professional positions and services for local school operations.
5. His performance will be evaluated in terms of an exposure/adoption index which will be developed by his employers.

In conclusion, the agricultural extension agent's role evolved over a period of decades. In all probability the SCE's role or something like it will evolve in a similar manner. Therefore, that research and development work which is initiated in its behalf ought to be of the highest calibre. Compromises due to time considerations should not be tolerated.

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AN ANALYSIS of GROUP SUPPORT and HELPING STRUCTURES

By

John C. Glidewell

Small groups generate psycho-social forces which resist social change and psycho-social forces which facilitate social change. They generate forces which restrain changes in the behavior of individual members and forces which induce changes in the behavior of individual members. The forces acting on individual members come from processes of consensual validation, social comparison, and mutual aid. The particular processes of the helping functions tend to take certain structural forms, particularly the form of dyads and triads. In groups of about four to twenty members (Bales and Borgatta, 1955), the dyadic or triadic structure takes the form of two or three roles, each role being taken by one or many members. While helping subsystems tend to be somewhat isolated from the larger system, they develop linking mechanisms which represent potential channels for social change.

What follows contains explanations of the foregoing assertions and citations of the data available to support them.

Restraint and Facilitation of Behavior Change

It has often been proposed that social order is always some sort of compromise between control and support. (See, for example, Shils, 1956, or Merton, 1957.) Small groups manifest this sort of compromise. On the one hand, they are norm-setting and norm-enforcing reference groups (Merton, 1957). On the other hand, they are instruments for social change (Lewin, 1952). An early study indicating the power of small groups to resist change in individual behavior was that of Shils and Janowitz (1948). They studied the behavior of German soldiers who perceived their situation to be hopeless at the end of World War II. They found that the greatest restraining force against a soldier's accepting offers of safety in return for surrender was his loyalty to his basic unit, the face-to-face group with which he served. American soldiers, when asked what induced them to face great dangers, expressed similar loyalties to their basic units (Shils, 1950). During the Korean War, U. N. prisoners of war resisted "brain-washing" much more effectively when they remained in interaction with small groups of fellow prisoners than when isolated (Schein, et al., 1961). A number of studies have shown that group members resist communications which are at odds with the values and norms of the groups (e.g., Kelley and Volkard, 1952).

Newly formed groups, or groups in the process of breaking up, do not exert such strong resistances to changes in members' behavior and, in fact, may encourage some changes (Gilchrist, 1952). When the basic units of the German Army in World War II were broken up and could not supply food, ammunition, or direction, the soldiers surrendered readily (Shils and Janowitz, 1948). Similar findings have been reported by Herz (1954), Riley, et al., (1951), and Kelley and Woodruff (1956).

Lewin (1952) and his associates developed a well-known series of experiments using ad hoc groups as support for changes in individual behavior. Generally, the new behavior was one which was previously avoided by the group but for which some acceptable rationale could be presented (like eating glandular meats during a war-time meat shortage) (Willerman, 1943). A wide range of work was done on this line of investigation, but the outcomes can be summarized as follows: (1) group discussions of controversial proposals usually make explicit some latent conflicts about existing norms of behavior (Katz and Lazarsfeld, 1955; Klapper, 1961); (2) group support of changed behavior is increased by the explicit individual decision (public or private) to try the new behavior (Bennett, 1955; Schachter and Hall, 1952); (3) the change is supported by the perception that a large number of other group members are committed to try the new behavior (Bennett, 1955); and (4) the change is supported by group leadership which exercises only reward power or exercises no sanctions at all (Kipnis, 1958; Coch and French, 1948).

As new individual behaviors develop in small groups, the group resists changes in the new norms, and demands for conformity develop (Asch, 1956). If individual behaviors are widely discrepant in the group, the attention of the members will turn to reducing the discrepancy (Schachter, 1951, 1959). The extent of the demands depends upon the basis for the interpersonal support, the focus of attention in the following section. Small groups or sub-systems which are parts of larger systems may modify their norms so that the group norms are in conflict with those of the larger system. When the small group resists change in its new norms, agents of the larger system usually withdraw some rewards to the group members in order to induce conformity to the norms of the larger system, (Argyris, 1969).

The Bases of Interpersonal Support

One may consider that all interpersonal support has at least three social forces in action: (1) consensual validation, (2) social comparison, and (3) mutual aid. Some supportive interactions involve one force primarily and other forces secondarily. For example, a golfing foursome may be attracted primarily by the opportunity for social comparison, but the foursome may also be preferred to another golfing group because of the opportunity for consensual validation of political attitudes. In addition, each participant may provide new information to the others and acquire other new information from the others. Indeed, under some conditions, golfing foursomes may be more supportive to each other by mutual aid in business than by producing a social comparison of golfing scores.

One may also consider that all interpersonal attraction involves some input from the society and some output to the society. In between, there is also input from the actors themselves, a process of interchange and transformation of resources, and some incorporation of transformed resources into the system (Berrien, 1968). The two dimensions of classification are shown in Table 1.

Considering first the attraction due to consensual validation, the inputs from society are issues: the alternative values, beliefs, and attitudes tolerated in the society. (Some say brown-shell eggs are more nutritious, some say white.) The actors, however, prefer one position. (It is really the brown-shell ones that have the most food value.) They are attracted to others with similar positions (Newcomb, 1961). The process of interchange, refinement, and transformation takes the form of request for opinion, expression of opinion, approval of opinion. Each actor takes his turn, sometimes requesting, sometimes expressing, sometimes approving. Where individual needs for dominance are involved, or where differences in power positions are involved (competence-based or otherwise), specialization develops. Some actors request most often, some express most often, some approve most often.

The outcomes to the actors are reversible; one may change his opinions. One would expect, however, regular reaffirmation of beliefs and some attempts to set up penalties for reversing an opinion. Consensual validation produces homogeneity of viewpoints.

Incorporated into each of the actors (primary outcome) is an increase in confidence in his values, beliefs, and an accompanying sense of righteousness; incorporated into the system is an increased interpersonal attraction and value on membership (Newcomb, 1961). The output to the society is clarity of group identity, predictability of attitude, exclusiveness of membership in the group, and intergroup conflict. In a group of teachers examining their professional practices, consensual validation would be most appropriate to long-range abstract goals, least appropriate to individual teaching style.

A CONCEPTION OF INTERPERSONAL SUPPORT

Social Forces	Input from Society	Input from Actors	Processes of Interchange and Transformation	Incorporation into the Members of the System	Output to Society
Consensual Validation	Values, Issues of Beliefs, Attitudes	Similar Values, Beliefs, Attitudes	Request, Express, Approve--Take Turns Low-cost Confirmation	Attraction, Confidence, Sense of Worth	Dependability, Exclusiveness, Intergroup Conflict
Social Comparison	Specific Competencies	Similar Skill, Knowledge, Ability	Competitive Activity, Challenge-Demonstration, Comparison	Winner: Confidence, Loser: Resolve, Mistrust	Production Incidental to Demonstration, Intergroup Rivalry, Gratification from Identification
Mutual Aid	Demand for Products, Norms of Reciprocity	Different Feelings, Ideas, Motives, Skills	Offer A--Receive B Offer B--Receive A Take Turns	New Feelings, Ideas, Motives, Skills--Trust	Power Struggles, Production of New Resources, Social Integration

A CONCEPTION OF INTERPERSONAL AVERSION

Consensual Validation	Same	Different Values, Beliefs, Attitudes	Request, Express Disapprove High-cost, Discontinuation	Doubt, Mistrust	Disillusion, Rebellion or Apathy, Work Barrier
Social Comparison	Same	Different Skills, Knowledge, Ability	Challenge, Demonstration, Humiliation	Loser: Doubt or Resolve, Winner: Guilt or Mistrust	Domination, Resentment, Illegitimate Victory, Identification
Mutual Aid	Same	Different Feelings, Ideas, Motives, Skills	Offer A--Receive X Offer B--Receive X	Resource Deterioration or Mistrust	Confusion, Apathy

Attraction resulting from consensual validation develops in stages as the actors explore the opinions of others in close proximity. From the same exploratory process, aversion may also develop. The inputs from the actors may be different or conflicting values, beliefs, or attitudes. The process is request-express-disapprove, and there can be--depending on the saliency of the attitudes--a high-cost disconfirmation. The process is not well-suited to the enhancement of individuality or the extensions of group norms. The incorporation into the system is doubt and distrust. For the individual, repeated costly disconfirmations, with many alternative others, of his values, beliefs, or attitudes leads either to a change in his views toward the consensus of the group or an increasing doubt of his competence or worth. Finding interaction with others costly, he may prefer isolation. With isolation, he experiences a deterioration in his capacity for enjoyment, his interpersonal skills, and those cognitive processes dependent upon consensual validation (Schachter, 1951; Emerson, 1954).

The management of the tensions produced by disagreements and conflicts of values has been a matter of controversy. Clearly, however, early attention to long-term goals has been quite frequently observed. In a sense, it appears that "if we can agree that all of us are basically seeking good ends, we can then tolerate variations in individual approaches." While such agreement on abstract ends actually gives only vague guidance for specific issues, it is reassuring, and it enables the group to continue to work on more specific issues. In the end, the group will discover that the same ends are in fact reached by many different routes. Katz and Kahn (1966) have presented the data confirming this notion as it applies in industry.

Experimental groups which have maintained a considerable dispersion of power and perceived competence in their development have experienced much disagreement in the early stages of problem solving, but great convergence of opinion (and conformity pressures) in the later stages (e.g., Bovard, 1951; Rehage, 1951). Benne's (1949) early specification of the norms of such groups is still relevant. It is possible that a history of disagreement and resolution produces stronger group support for the individual member who must act in accord with the norms of the group while away in a different environment.

Turning to social comparison as first conceived by Festinger (1954), one finds a quite different social force toward interpersonal attraction. The inputs from the society are (a) rewards for unusual talents or (b) special statuses based on specific competencies (as for surgeons and baseball pitchers). The inputs from the actors are specific competencies (skill, knowledge, ability) and motivation to demonstrate the excellence and often the superiority of the competencies (Hoffman, Festinger, and Lawrence, 1954). The interaction process is some form of competitive activity involving a challenge, a demonstration, and a comparison (Dreyer, 1953, 1954). Transformation of the knowledge, skill, or ability involved may be at a minimum, but the stress of the competition may stimulate new ideas or skills--largely for incorporation by the actor developing the new resource. Additional incorporation into the system includes confidence by the winner (at the extreme, a "fat and happy" elation) and despair and resolve by the loser (a "lean and hungry" determination) (Blake, 1959). A possible by-product of a hostile competition is distrust of each other by the actors (Sherif, et al., 1961). The outputs to the society are: (a) the production incidental to the demonstration; (b) the gratification from identification with the competitors by the spectators--in both business and sports; and (c) intergroup tensions. Social comparison processes are often outlawed by professional practitioners in judging practices, but they remain potent in the informal interpersonal perceptions (C. R. Smith, 1967; K. E. Smith, 1968).

The negative effects of losing in competition have been mitigated when multiple rewards are available so that the "goal area," in Lewin's terms, is available to many or all participants (Deutsch, 1949). Where each participant must reach the goal in order for any to reach the goal, one almost always finds a mutual aid system with a minimum of social comparison active.

Repeated experiences of losing in social comparisons leaves the individual in general doubt about his competence and worth and moves him to seek social comparisons with others less competent--more like him. He may come to avoid social comparisons of abilities--if that is possible in his society (Festinger, Torrey, and Willerman, 1954). If realignment or avoidance are not possible, repeated losses lead to apathy or to illegitimate victories or acquisitions. (Merton has developed a theory of crime and delinquency based on relative deprivation and availability or legitimate means to reach goals. See Merton, 1957.)

The third force operating--attraction generated by expectations of mutual aid by interpersonal accommodation--involved the most complex of inputs, transformations, and outputs (Thibaut and Kelley, 1959). From the society the inputs are offered rewards for (demand for) desired products in forms not currently available (as innovations in teaching practices). From the actors the inputs are diverse resources--objects, motives, feelings, ideas, skills--perceived to be amenable to transformation into desired forms. Thus the "new product development" group in industry attracts persons with a variety of resources: imagination, analytic abilities, synthesizing skills, market knowledge, and the like.

The process of interaction involves interchange, refinement, and transformation of the motives, ideas, feelings, and skills into products for output to the society, and new resources--such as new motives, ideas, or skills--incorporated into the actors (Homans, 1961). Mutual aid produces the greatest tolerance of individual differences, but the least personal security based on social order and predictability (Merton, 1957; Shils, 1956).

If, however, the interchange produces no transformation, if the diverse resources are not in fact complementary, the outcomes to the individuals are frustrations, deterioration of motives and skills, confusion, and disintegration of the system (French, 1944).

In summary, people in groups support one another by consensual validation of opinions and ideas, social comparison of skills and abilities, and mutual aid. The inputs from the environment and from the actors, the processes of interchange of resources, and the outputs to the environment vary with bases for support. Repeated experiences of mutual support in interaction lead to increased self-esteem, increased affiliation motivation, enhanced interpersonal skills, and further attractiveness in a self-sustaining circular process. In the opposite direction, repeated experiences of repelling others lead to reduced self-esteem, decreased affiliation motivation, disruption of interpersonal skills, and further unattractiveness in a self-sustaining circular process of increasing distress and a sense of unworthiness.

With these bases as background, it is instructive to review and analyze the traditional social subsystems evolved in attempts to help individual members of the system learn new ways of behaving.

The Helping Subsystems

The Helping Dyad

In all sorts of societies and cultures there is an old, honorable, and traditional method for dealing with an individual who is expected to learn something new or different to him--a new skill or idea or attitude. He is temporarily relieved of his usual responsibilities and assigned--often part-time--to a helping dyad--a temporary relationship with a person of special status who is to help him. Sometimes the one-to-one interaction in the dyad is training, sometimes tutoring, sometimes consultation, sometimes treatment, sometimes rehabilitation, sometimes confession, sometimes exorcizing evil spirits, and sometimes it is therapy.

Assignment to the helping subsystem may reflect no inadequacy of the client as compared to others in his role. It is a prime assumption of continuing education that all citizens need continuously to acquire new ideas and skills and even new motives and feelings. Most cultures, however, hold norms at odds with this assumption, and most adults find the student role at least a little incompatible with adult status. Accordingly, in non-correctional helping subsystems, one may expect that at first much energy will be devoted to reaffirmation of the adequacy of current performance. Once consensus on mutual respect is attained, energy will be devoted to specifying changes and possible improvements in the currently adequate performance.

A dyad is the simplest of social systems. In a dyad the nature of the interaction can be most clear and explicit to the two actors. Consider the socialization process in a dyad. Socialization may be defined in part as the process of learning the likelihood of receiving rewards and punishments from others in response to alternative ways of behaving in a social system. Nowhere are such likelihoods more clear and explicit than in the one-to-one interaction of a dyad.

The helper in the dyad is some person of special status and power based upon age, knowledge, skill, or magic. The high-power helper is almost always constrained by social sanction not to abuse his power over his client, to act in his client's best interests, and to try to restore him to his usual responsibilities in the larger system. The client is constrained to cooperate, which constraint usually means trying hard to follow the instructions of the helper, even if only about the method of learning.

When an individual seeks help from a group, his relationship with the group--conceived in its most simple form--is analogous to the relationship of a client to a helper in a dyad. The analogy is oversimple because the group is thus conceived as a homogeneous collection of interchangeable people, and group members are not homogeneous or interchangeable. It is, however, instructive as a first step to employ such an analogy.

Characteristic of the helping system is some form of privileged communication. The client is expected to expose the inevitable awkwardness of trying out new things in his interaction with the helper (helping group), but he is protected from a more general exposure and, thereby, from the social sanctions which would accompany a more general exposure. The privileged communication reduces the costs of errors in behavioral experiments. Connected with this privilege are very close limits on system linkage by interaction. Even with all the bureaucratic supervision in complex societies, the professional practitioner in the helping professions--especially the teacher--is very rarely directly observed in the process of interaction with his client or patient. System linkage is confined to overlapping roles. (See Merton's 1957 conception of the social mechanisms for the articulation of roles in the "role set.") Informally, there is pressure to extend the linkage with the larger system (e.g., a faculty), as will be shown in the following analysis.

Under such freedom from observation and limitations on linkage with the larger system, the helper (helping group) is given license to decide just what the best interests of the client really are. (See, for example, the work of Blau and Scott, 1962.) This license gives the helper (helping group) a considerable power over the client and creates a power imbalance. Such power imbalances have a well-known tendency to change in the direction of balance, albeit slowly. This social force toward a balance of power interacts with the system constraints on the amount of time available for the helping process. An extended time may, on the one hand, keep the client subservient to the group to the point of exploitation. It may, on the other hand, limit the power of the group and increase the power of the client in ways which have been subjected to analysis by several investigators.

Homans (1950) has put forth, and cited some support for, the proposition that continued interaction between any two persons will increase the dependency of each of the persons on the rewards supplied by the other. The trend of such increased dependencies is toward a balance of power. The helping dyad is a temporary system, limiting the balance of power which would accrue from continued interaction. The limitation of the time available is one of the safeguards the larger system places upon the tendency for social subsystems to stabilize and become rigid. The doctor must not extend his patient's illness; the teacher must not prolong the pupils' ignorance; the lawyer must not continue litigation indefinitely; the welfare worker must not perpetuate his client's poverty--such rules are made to counteract the tendency for a powerful person to maintain his power.

The opposite social force is not so widely recognized. The continuation may limit rather than increase the power of the helper (group). If the welfare worker becomes dependent upon his client's continued poverty, the client may develop as much power over the worker as the worker has over the client. Thibaut and Kelley (1959) have proposed that if the client (in the low-power position) can lengthen his time perspective far enough into the future, he can devaluate the assistance of the helper (in the high-power position), reflect question upon the skill of the helper (group), and thereby make the helper (group) dependent upon him for the demonstration of his competence. Schachter (1951) showed how a group will concentrate its attention on a deviant member whom the group wishes to change. Sometimes children discover how their achievement reflects credit or discredit on a teacher and begin to act on the power that this discovery gives them. Such a dependency of the helper on the client creates a balance of power.

Given the limitations on power equalization placed by the larger system on the time-limited life of the dyad, one might expect other power-balancing forces to be generated. Following Emerson (1962) and Secord and Backman (1964), one would expect that a prime effort of the client toward a power balance would be an assignment of increasing value to the assistance of the helper (group). Two findings are related to this phenomenon. Thibaut and Kelley (1959) found that the more powerful person in a dyad is better able to keep the values with which he enters the relationship; the less powerful is more likely to change them. If, in addition, the client entered the dyad by choice, he often tries to decrease the tension generated (pre-choice dissonance) by perceiving the chosen relationship to be increasingly more valuable. Brehm's (1956) experiment demonstrated this tendency. In such conditions, the client's power is increased by his ability to command the helping resources of the helper (group). A prime norm of almost all systems is that power is obtained in exchange for instrumental help (Blau, 1954). Under such an arrangement, the client receives valuable help and social approval from the group, he becomes more acceptable to the larger system, he is relieved of his assignment to the helping dyad, and he is returned to his usual responsibilities in the larger system. The cause of the change in the behavior would be attributed to the acts of the more powerful helper (the group), as had been shown by Thibaut (1955) and Thibaut and Riecken (1955). The operation of such social forces probably account for much of the long and honorable tradition of the helping dyad in so many societies.

There are conditions, however, under which the client does not assign much value to the assistance of the helper, and the power imbalance persists. Following Emerson again, one would expect the client to attempt to withdraw from the dyad--against the helper's professional advice. It is from just such forces that many helping groups are terminated while they are still in the process of developing.

Withdrawal is often difficult. Sanctions from the larger system often make withdrawal more costly to the client than continued interaction in the helping system, as costly as it may be. Under such conditions, one might expect the client to begin to ration his positive responses to the helper (group)--to be judicious in offering gratitude, approval, esteem--and thereby achieve some control over the rewards available to others (the group). A number of students have observed this phenomenon (Newcomb, 1961; Thibaut and Kelley, 1959; Emerson, 1962). To the extent that the helper (group) becomes more dependent upon the client for such status-reinforcing rewards, the client will have achieved greater power in the group. Most systems are designed to provide primary status-reinforcing rewards to the helper (helping group) from the larger system and thus to limit the dependency of the helper (group) on the client for positive evaluation. In the proposed project for teacher training, there may be no primary rewards available from the larger system, making the client potentially very powerful.

Within the time and reward-control limits set by the larger system, there are still other psycho-social forces which act to bring the power in the helping dyad into balance. The client may extend the power network as described by Emerson (1962). If he can establish relationships with other legitimate helpers (groups), he has options about whose instructions to follow. Inherent in the helping dyad there is one set of forces which generates a very common extension of the power network. Helpers and helping groups, being persons of special status committed to the best interests of the client, find themselves identifying with the client. His costs and benefits become their costs and benefits. Such expressive ties often come into conflict with the instrumental requirements of the helper's role. To confront the client with his distortions of reality is to cause the helper pain and distress. The helper finds himself in the classical conflict of the person who undertakes to perform both instrumental and expressive roles in the same interaction. This conflict motivates both members of the dyad to seek a third role. These are the forces which lead to the formation of the helping triad and the beginning of the differentiation of roles of group members and the extension of the power network into environmental systems, for example, into a faculty system.

The Helping Triad

It may be that, if one examined the informal as well as the formal helping systems, the helping functions are always performed by a triad. Even where the dyad is the formally established structure, one may well find a third person functioning informally in a high-status expressive role, complementing the high-status instrumental role of the formally designated helper. Roethlisberger and Dickson (1939) noted such triads in the Hawthorne Plant; Homans (1950) observed them among the Tikopia social structure; Blau (1955) found such triads in the informal organization of a government bureau. Freilich (1964) has made a discerning analysis of natural triads in both simple kinship systems and more complex social systems. Following his lead, one may explicate some powerful psycho-social forces influencing helping functions in social systems. Following is an attempt at such an explication.

The proposition is that tensions induced by the learning process are managed by a natural triad. The triad always includes a high-status instrumental figure responsible for the success of the learning process, a high-status expressive figure responsible for expressive support and tension relief, and a low-status subordinate (the learner).

The roots of the social forces leading to the formation of helping triads may be found in the wide prevalence of this basic form. Benne and Sheats (1948), Carter (1954), Bales and Slater (1955), and others have observed that, in the development of small groups, the "task" leadership role, supplying instrumental inputs, is regularly complemented by a second central role supplying expressive inputs. The functions of this very common role differentiation have been described as (a) reduction of conflict in the instrumental leader by relieving him of demands for expressive inputs; (b) management of the tensions induced in the group by the necessary demands of the instrumental, task-oriented role; and (c) modifying and extending the power structure of the group.

Studies of more primitive societies have also revealed the wide prevalence of the basic form of the helping triad. In patrilineal societies, the triad is formed by the father, the mother's brother, and the son. The expressive input and the tension management connected with the role of the mother's brother in Tikopia has been clearly described by Homans (1950) in an analysis of the reports of Raymond Firth (1936):

> In all the great occasions of life . . . the mother's brother acts as an older friend . . . and helps him (the son) over the rough places . . . Emotionally the relationship between them is friendly, free, and easy . . . It should be clear by now that the mother's brother is a practical and emotional necessity to a Tikopia man (p.218).

Freilich describes the general form of the triad in patrilineal societies as follows:

> The father has jural authority over ego: He has the right to give orders and ego has the obligation to obey them. This relation, of a superior and an inferior, is often marked by a formality and considerable restraint. However, relations between ego and his mother's brother are characterized by ease and freedom. The mother's brother, though superior in status to ego, frequently plays the role of intimate friend, adviser, and helper. The . . . triad . . . exists in many societies including

Batak, Gilyad, Karadjeri, Lakher, Lhota, Lovedu, Mbundu, Mende, Murngin, Sema, Venda, Wik-Mukan and Tikopia (p.   ).

The triad also appears in matrilineal societies, but there it is the mother's brother who has jural authority over the child, while the father performs the expressive role of friend, confidant, and supporter. Such matrilineal triads are found, according to Freilich, among the Trobriand Islanders, the Haida, the Tlinget, and the Pende.

Zelditch (1963) studied the family structures of 56 societies and found that in 46 of them a clear differentiation between instrumental and expressive role occurred. Bernard (1942), Parsons and Bales (1955), and Bronfenbrenner (1961) differ about whether the mother or the father is more likely to perform the instrumental or expressive role in the American family, but all agree that this particular differentiation in parent-parent-child triads is widely prevalent. Where the differentiation is absent, role conflict and incompatibility are more common.

A triad of the same structure can be found in most bureaucracies. There is a high-status figure who insures compliance to rules, but the low-status worker confronted with a knotty problem will consult a friendly colleague--high in the informal power structure--before he takes the risk of exposing his difficulties to the person in the high-status instrumental role. Such triads have been found in government agencies (Blau, 1955); in hospitals, where the physician, the nurse, and the patient take the three roles (H. Smith, 1957); in high schools, where the principal, the counselor, and the student are the actors (Stringer, 1959); and in mental health centers, where the psychiatrist, the social worker, and the patient form the triad (Hurwitz, Zander, and Hymovitch, 1953).

It seems reasonable to conclude that any consideration of the helping functions of a social system should take account of the triadic structures within the system, even if it is necessary to look closely into the informal interactions within the system.

Given that a group of teachers is formed to help its members assess their professional practices, one might expect to find the role distinctions of the classical helping triad at two levels: within the group and within the system of which the group is a part. Within the group one would expect that the roles of the group members would show some differentiation. Some members would tend to take instrumental roles, reminding the group of the norms and responsibilities imposed on the teacher by the community and school. Other members would take expressive roles, supporting the individuality of the teacher, showing warm and emotional support. In the larger system, however, the group as a whole may well be perceived as taking an expressive, supportive role vis-a-vis the individual teacher, especially if it offers encouragement in innovations or deviant, individualistic professional practices. Accordingly, the larger system is likely to induce some high-status, powerful member or group to take the instrumental role in complementation of the group's expressive role. The principal seems a likely instrumental figure.

The proposed role of the Specialist in Continuing Education as previously described in CERLI materials, appears to be that of the expressive supporter in that he is constrained not to specify what behavior is desired not to stand as an authority figure on teaching practices. It would appear that the group members are expected to take on the instrumental helping functions, aiding in evaluation of and making suggestions for change in the teacher's practices.

It may be found that the SCE can not maintain the expressive supporter role when the instrumental help is not offered by the group. He may find considerable pressure from the client and the group to free the gap, when the group cannot perform the instrumental helping for particular members at particular times. Role flexibility may be an important need for the SCE--and a difficult thing to develop.

Given that the helping triad has evolved as a psycho-social structure for coping with the tensions of learning--adult learning as well as child learning--one may turn to an analysis of the nature of the psycho-social forces which are generated to produce the helping function in the triadic structure.

The helping triad aids in mitigating the power problems of the dyad. Extending the network to the high-status supporter, as well as a high-status instrumental helper, offers alternative benefits to the client, but, because the supporter is expressive and supportive only, he does not offer a competitive substitute for the instrumental helper. Thus a supportive SCE will have fewer power problems within the group. It becomes harder to withdraw from the triad than the dyad, because it is harder to find more attractive and equally supportive alternative arrangements. It is particularly effective in providing positive affection and friendship while avoiding the undermining of the helper's power by making him subject to demands from the client based upon friendship or affectional support.

The triad is particularly adaptable to power-balancing based upon coalition formation. Beginning with the observations of Simmel (1950), a long line of research has substantiated the tendency of triads to form into shifting coalitions of two persons exerting influence on the third (Mills, 1954; Caplow, 1956; Vinacke and Arkoff, 1957; Gamson, 1961).

Assume a norm of reciprocity (Gouldner, 1960) which maintains the total output from an actor in a steady state and equal to the total input. One may then deduce the impact of the three major demands of an assignment of a learner to a helping triad. The learner is temporarily relieved of his usual responsibilities, and thus his output to the system of both instrumental and expressive resources is reduced. The helper, by role assignment or development, must increase his output of instrumental resources to the learner; the supporter must increase his output of expressive resources to the learner.

If the total input to the learner is to remain constant, then the input from the environment to the learner is reduced. The reduction of input to him matches his reduction of output to the environment. Thus, the temporary isolation of the learner from the total system is accomplished.

The increased output of instrumental resources by the helper must be balanced by a reduced instrumental output either to the supporter or to the environment. Because the system does not relieve the helper of his usual responsibilities or isolate him, he cannot reduce his output to the environment. The reduction must be in his output to the supporter. Similarly, the increased output of expressive resources by the supporter is counterbalanced by a reduction of his expressive acts toward the helper. Thus, it appears that, given the stated conditions, either the environment must tolerate a reduction in usual responsibilities and some isolation for both helper and supporter or a reduction of rate of interaction between the two must develop. In our hypothetical self-assessment group of teachers, a reduction of interaction between group and principal should develop, and within the group a reduction of interaction between those members taking an instrumental role and those taking an expressive role.

To add to this development, consider that, to compensate for the loss of output from the learner, some additional input to the environment from the triad is required by the norms of reciprocity. The additional input must come from the helper, the supporter, or both. Considering that the instrumental resources of the helper are already taxed, he will add an expressive output, usually by entering into an expressive supportive role with another person in the environment. Conversely, the supporter will increase his instrumental output and enter into an instrumental helper role with another person in the environment. An expressive supportive SCE will find it important to locate an instrumental helping role with some other group or individual in the school. These additional outputs are usually compensated for by a reduction of expressive output from the helper to the learner and a reduction of instrumental output from the supporter to the learner, making the roles more nearly "pure". The only alternative to the foregoing changes is to reduce further the interchange between the helper and the supporter, creating further social distance between them and adding to the negative aspects of the relationship between the instrumental helper and the expressive supporter. (compare to the quantitative analyses of Herbst, 1954, 1957). This summary analysis of the forces generated is elaborated in the following paragraphs.

The usual constraints obtain in the triad. The helping-supporting figures, instrumental or expressive, are not to abuse their power; are to act in the client's best interests, according to their judgments of his best interests; are to try hard to expedite the training and to restore him to his usual responsibilities or duties in the larger system. The client is constrained to follow the suggestions of the instrumental figure and to seek support and understanding from the expressive figure. The privileged communication is extended to a third role, and, in fact, some communications between the client and the expressive supporter are not available to the instrumental helper. Most typically, the client may express his hostility toward the instrumental helper only in communication with the expressive supporter--and in confidence--to avoid the sanctions which the larger system expects its agent, the instrumental helper, to invoke (Cohen, 1958, 1959). Conversely, communication with the instrumental helper may be repeated to the expressive supporter without concern, because the original communication was usually carefully monitored by the client, and because the expressive helper is not under constraint from the larger system to invoke sanctions. Some dyadic interaction between the SCE and individuals will be demanded. The impetus to criticize the school administrator is especially strong in an expressive helping group.

As has been proposed by a number of students (e.g., Homans, 1950), the high-status expressive role acts as a check on the possible exploitation of the power of the high-status instrumental role. Should the actor in the high-status instrumental role become corrupt and use his power to extract resources (objects, ideas, or sentiments) from his client, the high-status expressive actor would become aware of the corruption. Through his linkage to the larger system and his status in it, the supporter could invoke sanctions against the instrumental actor to end his exploitation.

A second psycho-social force induced in the triad is generated by the tension incident to the demands made by the instrumental helper. If the instrumental helper is to insure effective learning, he must necessarily place his client in positions in which the client must suppress his urges to act in ways judged to be less effective. Accordingly, he must induce tensions in his client. In Freilich's terms, he feeds tensions into the system. Ordinarily, the tensions are managed within the triad while the client experiments with new modes of behavior and seeks an adaptation between himself and the system. The client, feeling his urges frustrated by the demands of the helper, experiences negative feelings toward the helper. No matter how carefully the helper is trained to accept and work with such negative feelings, the larger system, of which the helper is an agent, disapproves of them. The client, like all low-power persons, monitors his communications to the high-power helper. The client finds it easier and less guilt-producing to express his negative feelings about the helper to the supporter, who is likely to understand, who is not a control agent of the larger system, and need not invoke sanctions. Thus, the tensions in the individuals, induced by the system, are relieved.

The analysis of tension reduction thus far has not included the interaction between the helper and the supporter. The helper is acting as an agent of the larger system to help in inducing a behavior change in a client. His role required that the helper restrain some of the urges which come naturally to him--to seek gratitude from the client, to coerce compliance from the client, or to temper demands upon the client. He must absorb some of the tension his actions generate. Coordinately, the supporter also must restrain some of his natural urges--to criticize the instrumental helper, to express negative feelings toward the client, or to invoke sanctions on the client. He, too, absorbs some of the tensions generated in the system.

In the basic analysis, the point was made that the relief of the learner's usual responsibilities to the system means a reduction of output from the triad to the system. As previously mentioned, such reduction is often compensated for by an increase in the output of expressive resources from the instrumental helper and an increase in the output of instrumental resources from the expressive supporter. These forces lead to tension management by system linkage. To the extent that the helper feels some tension due to his demands on his client, his tensions can be relieved by performing the expressive supporter role vis-a-vis another client. Similarly, the supporter may perform the instrumental helper role vis-a-vis another client. The tension management network is thus extended into a larger system, and the possibilities for complementary and reciprocal interchanges of tension induction and tension relief are multiplied.

In a helping group of teachers, those taking a supporting role vis-a-vis one colleague would seek a more instrumental role vis-a-vis another colleague, ordinarily within the group (the immediate environment). When the group as a whole is primarily expressive and supportive, one would expect that its members would seek membership in some alternative group (in the total school social system) in which they could take more instrumental and controlling roles.

The relationship of such a group to the school administrators (principal and his assistants) may be quite strained unless the administrator finds an opportunity in some other setting in the school to demonstrate his capacity to take an expressive, supportive role and, thereby, extend the network into the larger system.

The helping triad also generates forces in the direction of what Heider (1958) and his students have called "congruence of sentiment" (as summarized in Berger, et al., 1962). Where the learning is tension-producing--as most habit change is--the relationship between the client and the instrumental helper to whom he is assigned is expected to be often negative, even though the feelings are not expressed. Further, the relationship between the client and the expressive supporter is expected to be positive. According to Heider's theory, the relationship between the helper and the supporter should be negative in sentiment--unless the two figures remain out of contact with one another and thus achieve a vacuous balance. Avoidance of contact may be the most likely reaction. Under conditions of regular contact, the helper and supporter would experience a negative relationship. The instrumental helper would resent the positive expressions to the expressive supporter by the client, and the supporter would resent the demands made on the client by the instrumental helper. In the moves toward a balance of sentiment, an expressive, supportive group is likely to find itself in a negative relationship with the school administrator, especially if he takes a helping role with the teachers in the group.

To reduce the negative feelings, the supporter is constrained to advise the client of the wisdom and competence of the instrumental helper. While he expresses sympathy for, and understanding of, the distress of the client, he also reaffirms the value that the distress is a necessary condition to achieve both the behavior changes and their accommodation to the system. The helping triad was not traditionally an instrument of social change. It evolved to change the individual to fit the society, not the society to accommodate the individual. To the extent that its power and sentiment network is extended into the total system, the helping triad has, at times, induced social change.

When mothers have taken on the role of supporter of a child in psycho-therapy, the outcome frequently is that the mother resents the therapist and the therapist resents the mother. Under some conditions, social workers in clinics have taken on the supporter role in complementation to the psychiatrist's instrumental role, and the negative relationship emerging between the two has presented a problem in staff relationships.

On the other hand, interaction between the helper and the supporter in other systems often leads to positive relationships between them. Again, according to Heider's theory, if that positive relationship is to continue, some change in the relationship of each with the client must take place. Either the helper-client relationship must become positive, yielding the balance of all positive relationships, or the supporter-client relationship must become negative.

The first case occurs when the client's behavior changes to conform to the norms of the total system, at which point the client-learner resumes his usual responsibilities and the triad is dissolved. The second case occurs when the client's deviancy becomes so great that there is a cessation of interaction with him (as in the observations of Festinger, Schachter, and Back, 1950, and Schachter, 1951, 1959). Again, the triad is dissolved as a helping subsystem.

The foregoing analysis indicates a balance of forces in the helping triad which tends to keep the client (1) isolated from the larger system, (2) under stress to modify his behavior, (3) in a position to experiment with new accommodations with high-status figures, and (4) supported in his distress due to the tensions he feels. The helping figures, instrumental and expressive, are induced to (1) reduce the rate of interaction with each other, (2) tolerate negative sentiments by achieving an accommodation between the client and the instrumental helper and thus to complete the training and return the client to his usual responsibilities in the larger system.

SUMMARY

Small groups tend to resist individual behavior changes which violate salient norms and values, especially norms and values formed by consensual validation and tested in social comparisons with the norms and values of others. Proposal of some deviations from norms with an acceptable rationale can lead to group discussions which reveal hitherto unexpressed deviant views. If the discussion is not restrained by a leader (or leaders), it may lead to a commitment to try new behaviors which is supported by many other group members making the same commitment. Under such conditions, groups will support changes in individual behavior and, subsequently, changes in group norms.

Groups very often develop special helping structures for mutual aid, usually a dyad or triad of roles (performed by one or more persons). Groups whose prime goal is to provide support for individual behavior change tend to be temporarily isolated from the environment. They tend to place the individual under stress to modify his behavior and to provide expressive support for his efforts to change. The group tends to develop two specialized roles, an instrumental helper who reinforces the stress toward change and an expressive supporter who provides understanding and acceptance of the distress the learner feels. Persons in those roles tend to reduce the rate of interaction between them, develop some negative sentiments, and seek to manage the tensions by extending the power network into the larger system, of which the helping system is a part.

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REWARD STRUCTURES

by

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Behind all attempts at innovation lies a theory of human personality. Although usually the theory is implicit, with the institutional focus on specific and practical ends, nonetheless a rather formal set of assumptions about human motivation and potentialities, and the way they can be influenced, guides the program's targeting of areas of concern and methods of change. Because it is necessarily so, it becomes advantageous to begin approaches to change within an explicit commitment to a general theory, for then it is possible to pull together far more variables than are first apparent when dealing with specific factors by themselves.

Although there are several theories that deal with the personality issues to which CERLI is addressing itself (Erikson, 1950; Rogers, 1961), perhaps the most useful, heuristically, at this point, is the work of Maslow (1954; 1962-65). The advantage of this theory, and its usefulness to CERLI, lies in its organization of a wide range of personality dimensions into one framework, and a set of suggestions, as to how one should proceed to encourage human beings to operate on the most productive levels of human functioning. In terms both of how to structure the training program to develop these potentials, and what organizational features to provide for their maintenance, it is useful to review in a summary fashion some of the central ideas.

Perhaps the best way to understand Maslow's point of view is to see the issues he took to fight against. His major criticism of American psychology was its tendency to generalize from animal work (if the rat doesn't do it, it doesn't exist), to work on problems for which there already was a piece of apparatus, to focus on psycho-pathology rather than health, to be atomistic in conception, to use hunger as the basic motivational paradigm, and to legitimize problems such as anxiety, aggression, stress and conflict as open to scientific investigation, but not problems such as maturity, hope, cooperation or courage. It could be said that beyond any specific contribution, his most important achievement lies in keeping the question of mental health before the profession.

The difficulty in reaching an understanding of this issue, the range of ideas that have been put forth, and the research logic for empirical investigations has been summarized well in Normality, by Offer and Sabshin (1966). This book is standard reading for those interested in mental health, and puts Maslow's ideas in useful perspective. Maslow's basic point of view has been outlined in a large number of general propositions (1962, pp. 177-200). Several of the most central should be outlined before the specific points of his theory are discussed. First, he argues that human beings have an intrinsic core of needs, capacities and talents which are brought to social life. Second, he argues that they are potentialities rather than formal actualizations, and must be developed in the course of life. Third, Maslow likes to use the work "instinctoid," to indicate that they can be easily suppressed or killed off. Fourth, some of these potentialities are species wide, and other specific to an individual. Fifth, if the inner core is denied then sickness develops.

In the specifics of his theory, he argues that there are a range of organismically-based needs which are arranged in an ascending hierarchical order of need levels: 1) physiological; 2) safety; 3) love and belongingness; 4) self-esteem; 5) self-actualization. At each level the more basic needs must be relatively well satisfied before the ones higher can become relevant to the individual. This conceptualization of ordering helps to understand why people in a given milieu direct most of their activities toward those needs which have been frustrated, and why activities based on needs not yet relevant are conspicuously absent. In this way we are able to understand why many psychological and cultural patterns appear and how they are functionally related to each other. In terms of CERLI's program, this ordering helps direct attention to which aspects of personality must be dealt with first, and to suggest strategies for beginning institutional intercession. For just one empirical study showing the relationship between specific individual and cultural factors see Aronoff, 1967.

In terms of intercession, this theory yields a notion of psychotherapy at variance with both the psychoanalytic and behavioristic models. In short, it argues that much of psychopathology should be seen as a deficiency disease, and that interventions whether they be phrased as "therapy" or "personality development" should be seen as restoring gratifications that have been missing. In this way, the individual is able to move on to other areas of functioning. Personality development programs, then, must be geared to find the level of deprivation and work out schemes for specific restitution.

This theory predicts that when these basic levels are satisfied the individual still can function on them, but in a qualitatively different way. Instead of being driven to find a narrow band of rewards from the environment through organizing all social transactions in a limited way, now the individual can flexibly shift among them as it becomes appropriate. The words chosen to distinguish between these two orientations are "Deficiency" and "Growth" motivation. These words seem to conceptualize nicely what CERLI is trying to do. There is a fair size literature, perhaps best summarized in Knutson (1968) which gives empirical support for the overall theoretical model. Other relevant research would be found in Scott, 1967; Coopersmith, 1967; Wylie, 1961; Fiske and Maddi, 1961; Aronoff, 1967; Zigler and Kanzer, 1962; Hartup, 1963. In fact, most empirical studies of variables such as dependency, anxiety, affiliative motivation, self-esteem and creativity report results strongly in support of predictions that might be generated by this theory.

Some of Maslow's most interesting work deals with the characteristics of individuals who have been need gratified. Indeed this topic has been the central theme through most of his work, and discussions can be found in most of his books. Although the attributes of what he calls self-actualized people form a rather lengthy list, for our purposes the simple presentation of a number of them will convey the state of personality functioning that he has found to be optimum.

1) More efficient perception of reality
2) Acceptance of self, others, nature
3) Spontaneous
4) Problem-centered rather than means-centered
5) Has a need for privacy
6) Relatively autonomous of cultural pressures
7) Has continued freshness of appreciation
8) Peak experiences
9) A general sympathy and identification with mankind
10) Deeper interpersonal relations
11) Democratic
12) Unhostile sense of humor
13) Creative and original

It is of interest that this theory of motivation has found its happiest home in Industry Psychology. Managers, personnel directors and industrial psychologists looking for a way to reorganize their plants to achieve both greater efficiency and higher morale have found useful direction by developing structures to provide gratification of lower levels of functioning--and thereby release higher levels. Perhaps the Industrial psychologist who has had the greatest impact has been McGregor with his book The Human Side of Enterprise (1960). In this book McGregor argues that there are two kinds of industrial organizations, each based on a different conception of human nature. The first, and most prevalent, he calls Theory X, and maintains that it is based on the following set of assumptions:

1) An individual dislikes work and will avoid it;

2) therefore people must be coerced to work;
3) the average person prefers to be directed, wishes to avoid responsibility, has little ambition, and wants security.

In contrast, the second type of organization, which is being instituted in a number of forms, most notably and widely as the Scanlon plan, is based on a radically different set of assumptions of personality, called Theory Y:

1) The expenditure of energy is natural;
2) external control is not the only way to insure good work;
3) the commitment to objectives in work is related to the goals sought;
4) people like responsibility;
5) many people are creative;
6) under present industrial conditions only part of their potential is reached.

With Theory Y as a base reorganizations have been instituted in industry which have changed radically the structures within which people work. Following the ideas about personality outlined earlier, attempts have been made both to satisfy the lower needs and free higher needs. The experience of one firm most committed to these ideas provides a useful illustration. This plant had been organized on an assembly line basis, with rigid supervision and control in an impersonal setting. Wanting to increase production, the firm tried the usual methods from tightening control to offering large monetary inducements, with no success. They then decided to reorganize the basic nature of production by breaking the work force down into small teams in which each member built the entire product himself, and giving a great deal of the decision making power over important issues to the workers. They then found that production skyrocketed, the quality increased, absenteeism went down, workers didn't resign as early, reported fewer illnesses, and reported that they enjoyed their work more. In this case the reorganization was to reduce external control, provide the basis for warm interpersonal functioning, allow a feeling of accomplishment in the task, and, in effect, demand autonomous functioning from their workers. This experience is but one of many that have been noted, particularly as the Scanlon plan has spread. What is notable in these cases is that it was not exhortations that provided and maintained the accomplishment, but reorganizations of the natural social system geared to satisfying very specific personality needs in the workers. It should not be difficult to build many of these features into the training program for teachers. For example, the findings on the antecedents of self-esteem (Coopersmith, 1967) might perhaps offer many suggestions as to procedure. (See Appendix beginning on page 148 for outlined summary of findings of Coopersmith's (1967) work on The Antecedents of Self-Esteem.) In the body of the paper I will attempt to look at features of a reward system that would serve to maintain the accomplishments of the course.

The Effect of Social Structure on Pattern Maintenance

The essential problem in all special training courses, whether they are of the McClelland (1965) achievement motivation training variety (see de Charms, 1968) or speed reading courses, has been how to prevent the fading of the newly acquired skills after the individual has returned to his original social system. This problem should be central to CERLI's concerns and can be illustrated best by an example from McClelland's group.

Kolb (1965), in one of the first of the achievement motivation training programs, developed a summer program for underachieving high school students as part of a general session for underachievers at an Eastern University. Randomly selecting 20 boys, and keeping the remaining 37 boys as controls, he supplemented the regular session with a great many training procedures in n-achievement cognition and behavior. The major dependent variable was change in school grades one and three school semesters following the course. After the first semester the training course boys had higher grades than the controls. After three semesters, the training course boys who came from high socioeconomic backgrounds continued to improve and did significantly better in school than did the controls. However, training course boys from low socioeconomic backgrounds fell in school performance and showed no difference from the controls. The conclusion Kolb draws is that the training program had an effect, but that the type of social structure the boys return to is critical for the augmentation or mitigation of what was accomplished. Whereas high SES boys return to a family in which achievement behavior is rewarded, low SES boys return to an environment in which it may have been discouraged.

Since the teachers will return to a school structure, as well as a sub-cultural and community unit, the question arises as to whether that natural setting will enhance, maintain or diminish the effects produced by the course. The safest assumption to make is that the teachers will return to a school setting which will direct, in a variety of ways, the teacher to return to original modes of teaching. Although these pressures may be as innocuous as simply coping with the daily burden of activities, they may also include active resentment on the part of fellow teachers, school administrators and parents at new methods, goals and strategies of teaching.

The Fit Between Individual and Social System

The first perspective that should be taken is to look at the fit between the motivational level of the teachers and the psychological demands and rewards of the natural school system. There is a considerable literature (Inkeles and Levinson, 1954; Levinson, 1963) which takes a general interdisciplinary system approach to these problems and concludes that organizations have certain psychological requirements. If the individuals functioning within that system do not meet these specifications then great conflict will ensue. Indeed, certain authorities within this group argue that the motivational requirements to a large degree are produced on the job (Waller, 1960). From another point of view, namely Industrial Psychology, there are countless studies showing that efficiency, morale, etc., are related to having various motivational attributes fit the demands of the job.

Now, the CERLI program, by its nature, is working in the opposite direction. Because its goal is to develop teacher's motivational level, to say nothing of the practical difficulties in radically restructuring functioning school systems, this overall perspective is the primary "necessary" condition in order to maintain the course achievements. Whatever the strategies that may be devised to continue these achievements, if the school system makes major contradictory psychological demands, then whether it be conceptualized as "negative reinforcement," "extinction" procedures, or whatever, the result will be the same as in Kolb's experiment with low SES underachieving boys. Indeed, the prime problem in T-grouping in middle level management is either a) the fact that only 1 segment of the natural social system is involved, or b) if several levels are involved, the proclamations of freedom of verbal and affective expression last only for the training week-end, and do not persist on the job afterwards--which, supposedly, is the whole point of the original T-group.

There is some work, referred to in Maslow (1965), which indicates that managers of social systems can take a psychological approach and readjust certain aspects of the social system to better fit desirable personality characteristics. When this is done, especially in conjunction with an emphasis on personality development, the results seem good and, most important for the purposes of this paper, long-lasting. The overall conclusion is a) to have structures that avoid negative demands, and b) to use the natural system to provide natural rewards. Therefore, one goal of the conference, and CERLI's overall program, should be to identify the motivational level of the teachers, the motivational reward characteristics of the school system, and devise procedures for having the school reward system maintain much of what gets accomplished in the course.

How Patterns might be Retained on the Individual Level: Self-Reinforcement

In the last few years a small, but rapidly expanding, group of psychologists has undertaken a program of research into the problem of the self-regulation of performance. Following an earlier suggestion of Skinner's (1953), which is addressed to the problem of the persistence of activity, they have attempted to see if it is possible for an individual to establish and operate his own schedule of reinforcement. Although, at present, the laboratory research typically deals with the learning of discrimination, imitation or verbal learning tasks, rather than the maintenance of autonomous activities by teachers, enough is now known about this process to yield a principle that is likely to be of value to CERLI.

The best summary of this work is in Katz (1967), where a bibliographical review of the literature is found. Without repeating his summary of the research, it would be useful to examine one of the studies as an example and then proceed to suggestions of procedures that might be introduced into the training course.

Marston and Kanfer (1963) compared the effect of self-reinforcement to externally-produced reinforcement and extinction procedures. Using a task where adult subjects were asked to pick the correct nonsense syllable out of a group of four on each of a series of cards, subjects were at first informed if they were correct after each trial, but then divided into three groups prior to complete learning. One group continued to receive reinforcement by the experimenter, a self-reinforcement group was asked to press a switch when they thought they were right, and an extinction group was given no reinforcement of either kind. In the next 10 blocks of trials, the externally rewarded group showed a major increase in correct responses, the extinction group showed a significant decrease, and the self reinforced group maintained the level of their performance. In this simple experiment, at least, self-reinforcement was shown to be of use. Other experiments have used tokens and self verbalized "goods" as the reinforcement.

How are we to extrapolate from these experiments to the complex and wide ranging activities sought for in the CERLI program? Is the verbalization of "good" immediately after a specific act a useful paradigm? In fact, just what is the psychological act and reward if the teacher rewards herself by a self-administered "good?" On the face of it, there is an inherent paradox in applying these findings to real human beings in real situations. It is reasonable to believe that externally controlled schedules of reinforcement will work, but to say that you can (or will) administer a reward such as this to yourself implies that you have already internalized the values. If not, the continued self-application of "goods" should be the first to go. It is much like the process underlying smoking control tablets. The logic of those tablets is that by first taking a nicotine rich tablet the smoker steeps himself in nicotine and makes himself slightly nauseated. A cigarette, then, will make him ill. This is a self-administered negative reinforcement. But if negative reinforcement is the simple key here to avoiding smoking, then the simplest avoidance pattern would be to give up the tablets. Which is what most smokers do unless they already have a strong wish to stop smoking.

But while self-reinforcement is paradoxical, at least on the level of the Skinnerian model, it does work in the laboratory and smokers do find these tablets useful in giving up smoking. The key to understanding the effects of this process has been recognized to be something other than mechanical self-reward. Katz (1967), among others, argues that what does occur in the self-reinforcement act is not the equivalent of the person giving himself a "gold star," but that this act sets up a self-evaluation process. At a simple level it increases the subject's vigilance, but more importantly, it forces the person to examine his behavior, and the consequences of his behavior. Through these cognitive and affective reviews, the person is brought to be more aware of his activity, more aware of just what it is that he is trying to do, and more sensitive to their outcomes. This, then, allows him to judge success and failure on a more frequent level than usual, and so give more clarity to his goals and effects. In terms of teachers, these frequent reviews allow them to be affected more often by the natural reinforcements inherent in the teaching situation.

The question, then, is how to set up a naturally appearing activity that can have the same effects as verbalization of "goods" in the laboratory--one that can be integrated both into the program's goal of doing something special and at the same time integrated functionally into the teacher's natural activities. A suggestion that comes out of McClelland's program would seem to be of use, particularly as a means of stimulating self-evaluation. As part of many of the motivation development courses participants are asked to keep a log of achievement related thoughts and activities after the course has ended. A record such as this, to which members are committed, should serve to maintain the issues brought up in the course, and encourage frequent self-evaluation.

If the results of a process of self-evaluation are the real reinforcement, then it must come in proper temporal relation to the response. This implies that it would be useful to build into the post-course period a practice of the teacher keeping a daily review of her performance in the form of a teaching log. In this journal she would review her activities, problems, successes and failures, and come to decisions as to how well she did. As part of this detailed accounting would be the benefit, just because she is looking harder, of having immediate feedback on her performance.

Another procedure would be to encourage weekly meetings among the graduates of the program in the same school. Not only would this help to develop a reference group, which is discussed below, but it would set up an official vehicle on a frequent basis to promote self-evaluation, sharing of problems, and sharing of solutions. Assuming that the atmosphere of these meetings would be one of non-critical suggestions, trust, and altruistic advice, it might have a major influence in the maintenance of achievements. If the assumption can not be made, as to the qualities of the nature of interaction once the teachers return to the schools, then this presents another contribution the SCE might make on a continuing basis. It might very well be one of his most important duties to periodically remind, encourage or re-establish the original atmosphere of the program.

Clearly, the knowledge of success is one of the best means of establishing a source of reinforcement for these teachers. As this is already specified in the CERLI program its benefits need not be reiterated. It need only be said that as self-reinforcement boils down to finding vehicles to encourage self-evaluation, a continued search should be made to find other vehicles.

There is one danger that might arise early which should be clearly specified and avoided, for it might make the self-evaluation procedures work against long-term maintenance. It has been the experience of many that when more open and expressive methods are introduced into schools, in which the students have been socialized in functioning within a custodial or repressive system, that the first result is to produce confusion within the students and disorder in the classroom. How to overcome these problems I leave to others. My concern here is with the effect of these disruptions on the self-evaluation process. One can easily foresee that for many teachers the content with which the evaluation would deal at first would be primarily a long succession of troubles. That this would provide an early sequence of negative reinforcement hardly needs mentioning. In order to be safe, it should be expected that this early period of confusion, while re-socialization is undertaken with the students, will occur, and ways found to counteract its negative influence. How to prevent it? To some extent it should be possible, during the course, to alert the teachers to expect this phase, and thereby mitigate some of its impact. The SCE might have an especially useful task, during the period, in reassuring the teachers, helping solve certain classroom management problems, and maintaining the teachers perspective on the long range goals. Perhaps most important, the teachers should be taught during their training to separate the problems from their successes. It might even be possible to show them that these expected problems are an index of the impact they are having on their class, and, in this way, an index of success. In any event, during the initial phase of classroom reorganization, teachers should be oriented to taking a more micro-examination of their activities and using smaller units of classroom success than they should use at the end of a year's teaching.

The establishment of post-training review groups might also help with this problem, in insuring a source of support and encouragement while the shake-down period is passed through. It should be possible for the group of teachers to help each other minimize the impact of the problems and maintain the continued effort. Further, it would be good to suggest to the teachers that they should not attempt to tackle all aspects of the classroom situation at once. That might be too severe a disorientation of well established patterns. Rather, by focussing on selected issues, the children will be less upset as new procedures are introduced which can form the basis for the remainder of the innovations.

Social Concerns

1. Reference Group

One of the suggestions McClelland (1965) makes most strongly is the establishment of a social group as a vehicle for the formation of a special identity. This serves the purpose of maintaining commitment to the project through continued contact, clarifies and reinforces the goals sought, provides group support in the possible intra-school conflict, and encourages the frequent self-assessment as to performance. Below are listed several procedures that might be built into the course to foster a feeling of group purpose.

a) The maintenance of contact with the SCE. Here, the efforts of the SCE to help teachers collect data on her performance will serve the further purpose of continuing her commitment to the program.

b) Periodic meetings of both the original group of teachers as well as meetings with new groups of program graduates. Spreading the linkage of teachers involved in the effort beyond the original group will both buttress the group identity and, possibly, provide new contacts which might develop into informal friendships. Friendships of this kind are likely to help teachers reinforce each others activities as well as provide counter-weights to negative influences in their home schools. Suggestions for these meetings would be demonstrations by master teachers, lectures, review of progress, etc.

c) Subscriptions to certain journals. Possibly the Journal of Applied Behavioral Science would be useful; newsletters, etc.

2. The use of the natural system for rewards

a) From the School. It would be useful for CERLI to address itself to the kinds of rewards possible from the school system. Assuming that there are no negative reactions in the school to innovative approaches, what kinds of recognition would it be practical to expect the school to be able to provide? Could they be monetary, in recognition of superior performance? Symbolic, in the sense of special recognition or delegation of special responsibilities? For example, work on special projects of curriculum planning, or assisting new teachers.

b) From CERLI. Can there be special rewards from an organization that CERLI might develop? While some of these might be the usual monetary or symbolic rewards, it should not be difficult to establish a program of attractive activities. A possibility here is the use of these teachers in various training capacities in the future. For example, these teachers might give demonstration lectures in their own and other schools or lecture before civic groups of all kinds. It is also likely that this group of teachers might yield some of the best SCEs as experience develops. This latter possibility might be very attractive to some with higher professional ambitions.

3. The role of the SCE in preparing the school system for the teacher.

a) If the goal of the program is to be the fostering of autonomous and creative teaching, it is necessary for the teacher to enjoy the trust, approval or at least the toleration of the school administration. Therefore, a central activity of the SCE role should be in explaining the nature and goal of the program and winning the confidence of the administration. Otherwise, a simple information gap, to say nothing of other problems, will set the administration to hampering these teachers' activities.

In particular, the goal of the SCE should be in winning for the teacher a greater voice in educational planning within her classroom. This will remove much of the parent-child relationship which so characterizes dealings between principals and teachers--in which the teacher takes on many features of the child's role. If the teachers are to be autonomous, then the system must let them be autonomous. This can be accomplished by removing, as much as is possible, the custodial focus of the school as a whole--which also includes the teachers. If the teachers are not, in fact, autonomous, then the efforts of the course are wiped out.

In McGregor's (1960) terms, there is either a theory Y organization, or there is not. Therefore, it would be useful for senior levels of school administration to be involved in these courses. A second benefit of involving administrators in these courses, is that it may be possible to have them continue the training along these lines when they return to their schools.

b) In line with the preceding section, I would take exception to the proposition that the SCE works for the teachers rather than the administration. First, to the extent that such protestations to the teachers are necessary, it indicates a lack of trust in the school and fear of retribution at a level sufficient to wipe out any accomplishments in the courses. If these negative factors are, in fact there, then they should become the first concern of the SCE. Second, the administration is part of the social network of the school, and will have its effect whether ignored or not. To cite the achievement motivation literature again, Andrews (1965) shows that in authoritarian organizations, executives high in n-achievement run into great difficulty, rather than get promoted. If only as a defense, although hopefully for its positive contributions, the administration should be brought into the attempt at educational development. As suggested in the preceding section, one way to accomplish this is through offering these courses to principals, and most usefully, in mixed courses with teachers. Moreover, ways should be found to make tangible an organizational commitment to the teacher's activities. Whether it be in the form of a time commitment by the principals (i.e., taking over certain classes), or finding funds for their work, or the allocation of space, is less important than that the school become involved in these activities. Through means such as these there develops a redefinition of the procedures of the school. Otherwise, as has so frequently happened, the innovations brought to the school will be seen as alien intruders--at best, barely tolerated, at worst rejected for any seemingly plausible reason.

c) Another area of concern, in the sense that it is part of the directly relevant social network, is the effect of new teaching strategies on the parents of the school children. One can easily foresee, especially in working and lower middle class neighborhoods, parents not understanding these efforts and becoming quite upset (Gans, 1967). Their concern may manifest itself in pressures through the PTA, or individually through their children against one teacher, to block these efforts. Particularly in schools not totally committed to these ideas, this is an event to be avoided. (This is a further reason to have the school organization behind the teachers.) Why have the parents working against the teachers?

This, then, projects another role for the SCE. Whether it be through working with the PTA (if it is active), or in conjunction with the teacher with parents individually, ways should be found to draw the parents into the overall strategy. To some extent, this means having the teachers teach the parents to teach the children. At the minimal level, this suggestion helps to avoid a possible source of conflict which could block the efforts of this program. At best, it supplements the teacher's contribution, stabilizes long-term change in the children (Kolb, 1965), and provides for the teacher another source of reward to help maintain the accomplishments of the course.

4. The SCE

As I review the characteristics of training courses that McClelland describes, as well as the psychological rewards the school structure must provide (in the sense that the SCE must arrange for them), I believe the key aspect of this program to bring to CERLI's attention is the personal characteristics of the SCE. This is because the danger in setting up an organized program lies in believing that a package of materials can be developed which will carry the weight of the course once the initial enthusiasm is lost. There are countless examples of innovation in which a highly involved person carries out his ideas with great success. While his success is often due to his enthusiasm and commitment, rather than in his specific suggestion of materials to carry out his ideas (using what is pejoratively labeled the halo effect), those who come after him follow his blueprints, but don't wear his halo. Their lack of personal commitment and their attitude of doing a day's work leads to the diminution of impact of what often are good ideas.

For this reason the central problem in the program will be who is to fill the SCE role. It is likely that this role will attract the marginal educator--someone who, in background and ambition, will be between the teacher and the school administrator. He may also be the cultist, quick to learn the jargon, but uncommitted to education. In any case, given the class background from which the most available may come, it is unlikely that he will possess the personality characteristics that are needed.

It is likely that the most suitable people to fill this role are highly experienced teachers on leave from their schools. This group is more likely to have a substantial commitment to education and to have reached a stage at which they wish to work on educational programs. A further benefit of correct selection of SCEs emerges as we pick up a last issue. In thinking about the maintenance of personality characteristics in the teachers (trained by the SCE), the assumption is that the SCE will perform correctly after his orientation course. Experience tells that this should not be assumed. All the training and structural elements discussed for the teachers apply to him as well. His performance should not only be systematically monitored, to insure that his formal and informal teaching conveys the right message, but concern for maintenance of his activities must be built in as well.

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APPENDIX

In this section is listed a summary, in outline form, of the most relevant findings of Coopersmith's (1967) work on The Antecedents of Self-Esteem. The findings are reported for high self-esteem individuals (white, male, normal, 10-12 years).

I. Characteristics of High Self-Esteem Individuals

1. Is generally the advocate, rather than listener
2. Is less of a conformer
3. Generally shows more creativity
4. Is more likely to take an unpopular view
5. Is less sensitive to criticism
6. Is less self-conscious in public
7. Is less concerned with personal problems
8. Shows freer emotion and less anxiety
9. Higher IQ

II. Background Characteristics

1. Father is rarely out of work
2. Father is rarely away from home
3. Father's work position is secure
4. There is a trend for mothers to have worked more

III. Parental Characteristics

1. Mother's self assurance and poise is high
2. Mother is relatively stable and free of symptoms
3. Parents value achievement in school
4. No previous marriages
5. No step parents, etc.
6. Little religious differences between parents
7. Mother views having children as desirable and natural
8. Children more likely to confide in father
9. Little tension between parents
10. Clear lines of power and responsibility in the family

IV. Early Experiences

1. Unrelated to bottle or breast feeding, but inversely related to early shift from breast to bottle
2. Inversely related to frequent illnesses, accidents and traumas
3. Siblings stuck together more
4. Better early relationship with peers

V. Parent-Child Relationships

1. Mother shows more affection and is closer
2. Mother knows all of the child's friends
3. Mother shows more interest in child in a wide range of areas
4. Parents feel that rules, expectations and standards should be set. Inversely related to permissiveness.
5. Rules are consistently and firmly enforced
6. Rewards are given for succeeding, rather than punishments for failing
7. Control is exerted by management: restraint, reasoning, denial, isolation - rather than by corporal punishment or withdrawal of love.
8. Parents are more accepting about wishes and opinions of children across a wide range of issues
9. Mother more encouraging about exploratory behavior

While one must be extremely cautious in generalizing from correlations such as these to personality change programs, there are still several principles in these findings which might be usefully built into the seminars. The following are a set of suggestions based on extrapolation from this material.

1) There must be a sense of stability and continuity in the CERLI staff structure. Insecurities over funding, evaluations and staff policies should be settled. While it is a truism to say that what is needed is a well organized group staffed by happy workers, difficulties in this area will be quickly picked up by trainees.

2) The leaders of the seminars must be personally self-assured and relatively free from counter-transference problems.

3) Leaders must be confident in the value and efficacy of the training.

4) While it is valuable to clearly enunciate the differences between this approach and the traditional, do not build in guarantees of expected future difficulties in the home schools. This is another reason why channels should be cleared with the schools.

5) There should be clearly demarcated lines of authority among the staff, without the neurotic self-esteem power displays so frequently found in an organized staff. In other words, the staff should be clear on their different jobs, but possess respect for each other's role.

6) Build trainee solidarity

7) The staff should show a general concern for the entire personality, goals and involvements of the teachers, rather than address themselves to the single dimension of them as teachers.

8) The misunderstanding of Dewey as advocating total permissiveness has led to widespread difficulties. The message that "anything you do is good as long as it comes naturally" is a misapplication of the principle of trust. Competence is attained by taking on difficult tasks, knowing what success is, and working with the trust of others toward those goals. Therefore, duties and responsibilities should be set in the seminars, and should be clearly outlined for the future. Standards and expectations should be set.

9) There should be a trusting and accepting atmosphere in the seminar. Emphasis on evaluations, or the mechanical and rote following of a syllabus should be minimized. There should be the use of rewards, rather than the use of punishments such as disapproval or dismissal. Which implies that the staff must be personally strong enough to deal with the teacher's own anxieties or acting-out.

10) Areas in which the teachers can function competently should be built in from the outset of the seminars. A major part of the curriculum might well be that it should be invented by that particular group of teachers.

CONFERENCE of CONSULTANTS

CONFERENCE of CONSULTANTS

Consultants who prepared the six position papers met for a conference in Chicago, Illinois on April 11-12, 1969. They compared their perceptions of Program I, examined its strengths and weaknesses, and raised issues vital to future program development.

That a group of professionals who were not members of the CERLI staff was involved in an extended discussion of Program I made this conference unique. As the consultants interacted at the conference table, CERLI staff members (occupying an "outer circle") were involved as observers and occasional participants.

Essentially, the consultants agreed that the program units are consistent, coherent parts of a total concept. However, they did express a number of concerns (some positive, some negative) about various aspects of the program that--from their respective viewpoints--seemed significant.

The following quotations, excerpted from the tape-recorded conference sessions, embody these consultants' concerns.

SESSION ONE

General Reaction to Program Components

> ... We see feedback as just a way of thinking about this whole thing. And it's a good way of thinking about it because it gives you some intellectual leverage on all the other things, all the considerations that might be relevant at every point along the process.
>
> ... It seemed to me that behavioral objectives or some clear, precise way of stipulating what that intent really is might be a useful tool.
>
> ... The teacher is within a natural social system of some kind which then led me to look at different aspects of the social system. Partly I was worried about negative influences, what would happen when the teacher goes back into the school. By definition, the attempt is made to produce different kinds of behaviors, different approaches to teaching. The assumption should be made that the school would at a minimum not understand what the teacher was trying to do, and possibly be hostile to it. So I tried to deal with some of the negative problems that the teachers would be running into and also to see what aspects of the natural social system are available for use as rewards for the teacher.
>
> ... Most of our problems are really resolved by people in other disciplines. It's a matter of engineering the strategies within the field of education, creating the appropriate communication networks, and creating some new roles to pull this all off.
>
> ... The major concept, I guess, that I dwell upon in the paper is anxiety, an attempt to indicate how it can lead to functional or disfunctional results in terms of the behavioral changes desired. Its pragmatic value, I think, is that the SCE should be aware of the kinds of cues that teachers will give off that indicate their having too little or too much tension and that he needs to in some sense be a psychological consultant who's tuned in to what might be happening inside the teachers while they're going through the process.
>
> ... It seems to me that small groups not only support people, they constrain people too. And to do both at the same time means there's either a somewhat complicated set of processes or it just means that I don't understand it - both of which

are probably true. So I got to the point where I was trying to look at the nature of the problem people were working on, something of the composition of the group in terms of personalities of people, the processes of the interchanges in the group, and something about the structures that were imposed on by a larger system.

... I think there are two levels of analysis. One is within the group, involving the teachers and the SCE in a group. And the other would be to see the group as a unit of analysis. The SCE is another unit of analysis, and the system in which it exists is the third unit of analysis.

... But my assumption also is that there should be a conflict between the larger system and the small group. That if the small group is structured and finds it feasible to act as an expressive, supporting kind of agency for the teacher, then the total system is more likely to act as an instrumental and constraining kind of agency for the teacher and you'd expect some conflict between the group and the total system.

... It seems to me that all of us are overlapping like a family of ideas in all the papers.

Identification of Problem Areas

... Let's view any group or any organization as a collection of functions. Is it true that in each function there must be a kind of role? Obviously not. Consider an individual for example. I perceive and I process the perceived data and I do things with that processed data. Should I modularize the function of perceiving and assign it to another module, a person, to see for me? Should I create a new role for my perceptive functions? Should I create a new role for my decision functions, and should I create a new role for my acting functions? Obviously not. I have to integrate them all into myself, the individual, the smallest unit of analysis. Now at the organizational level, let's think about a school system. Should there be a different person to make every single decision, or a different person to make every single kind of decision, or a different role to effectuate every desired organizational end? Is the axiom operating that there should be a role for each separable, articulatable function? Why create an SCE? Why not just let the things that he's supposed to do be done by all the other people who already are sitting around the school system? Why not just let them perform all these functions? Why does he have to be introduced?

... He's not supposedly really being introduced into the system per se. He's serving as an adjunct to the educational system, to come in and out when needed.

... Take the case of the unitized elementary school, or teachers working with a unit leader. It's possible, I suppose, to conceive of the unit leader as being an SCE. You don't need to bring somebody in.

... You train somebody who already exists in an established role and renew his functions in some way.

... I think the thing that is unanswered in our analysis so far is where does the SCE come from? Where does he sit? Is he in the central office as an assistant superintendent who skips around - building to building - carrying out seminars? Is he a principal, is he a department head, a unit leader? Or is he at the University of Chicago and occasionally he goes out and visits the schools under a certain kind of contract that he has with them? These could all have particularly different consequences, it seems to me. I mean different issues to raise. I don't know as that's raised in our discussion.

... But also this fundamental attitude or approach toward introducing change into an organization. Do we do it by introducing an alien body, by insisting that the organization mirror in its organizational structure our abstract model of it, our theory of it?

... I think expense is a key point, though. Consider trying to sell plan x and plan y to a superintendent. Plan x is I will train all your department heads in the high school to be SCEs. Plan y is I want to hire ten people who are SCEs and add them to your budget. Plan x is clearly going to be preferred.

... But how are we going to train all those people?

... Presumably they've got some money.

... I'd like to earmark strategy of entry or how you get into Chicago--something like that--a strategy of entering a complex school system with this kind of role in mind. I don't think we treat that in our work and it's the key around which much of this would live or die.

... If you want to know what feedback says about it, it says when you get a system that has too many pieces, there's overhead in the system, and the more pieces you put in there, the more lines you have to draw between them, and the more decision blocks. And finally that thing gets too heavy to manage, it gets unwieldy. That's all feedback theory says. But now the question is, is there room in the educational system for one more decision block?

... Is the SCE a person or is it perhaps a pamphlet? Is it perhaps reducible and introducible in written form to be read by literate teachers?

... It's more than a person. It's an organization.

... It's a major organization with a great deal of credibility.

... If you do create a new position--or however this role is put into play--how do you assess its validity? My argument is that you don't do it in terms of the teacher. But not there to help that teacher be a better person. The schools exist for children. If you can't demonstrate to the kids that they're gaining more in whatever the intent of that institution is...well than that's the only way we can establish validity.

... I think it's very important that data on kids be collected somewhere along the line.

... How about the training and internship experiences that would create an SCE?

... How about--after he's so highly trained--he wouldn't want to have anything to do with such a low status role? That's a problem.

... Who was likely to take on this kind of job?

... Well, I kept wondering who would be the best SCE, and I kept thinking of people that I noticed around various projects in Boston, who are very marginal people. It was this kind of person that struck me as the one who'd most likely sign up for the SCE kind of job. That a person with a doctorate is not; the person with a masters probably is not.

... An equivalent could be a curriculum consultant in a school system who's a specialist in English, and who goes to various schools to beef up the linguistics.

... I'm thinking now of marginally trained people who are doing T-grouping in Universities, very poorly trained, occasionally malevolent people who are interested in it because of the power over other people.

... I think it would be very important that we try to make sure this is not sensitivity training. The SCE role we're talking about has some attributes of sensitivity training, but it's a task-directed activity, a problem-solving activity.

... Are we teaching skills, or are we doing personality development? And both of these parts are mixed in.

... You see this is why I keep coming to the word psychotherapy because it does verge on psychotherapy.

... There are certain affective processes going on here certainly, and likewise classroom teachers have certain affective behavioral objectives.

... But that's not the same as psychotherapy because affect is involved. It doesn't mean that you explore the personal conflicts and hang-ups of the person in the session.

... What I was trying to get at is the extent to which dealing with emotional questions, doing personality change, having personality change being accomplished in the program itself, is one of his functions.

... And it has to be a person who can handle it, who has the wisdom to handle it.

... All I'm saying is that I wonder who is going to take on this particular job. I know a large number of very unsavory types who are around today who are taking on jobs that deal with emotional questions with other human beings who do not have the skills to handle it. At a minimum, you know, nothing is accomplished.

... Half the teachers in the country, throughout their careers, are only visited twice by any outside observer. And when they are visited, half of those people never get any feedback as to what was seen. Then you get the rising militancy of teachers saying that there's no help given in the way of a pedagogic. Well--you have a classroom populated with people who are deficient because of the selective process in the competency. Then maybe the primary role of this person, the specialist, will be really working on pedagogical tasks rather than on personality tasks. But then I know the studies that two-thirds of the teachers have bad mental health, and I've seen those scary things too.

... As I see him, he's got to be certainly a nonsupervisory type, non-threatening, one that can work with teachers, work with teachers' weaknesses rather than their strengths.

... I would like to think that he could work with their strengths.

... But, generally speaking, teachers are apt to hide their weaknesses, disguise them. But if you're going to try to improve, you don't parade your weaknesses to your principal.

... I think that whether or not he makes people vulnerable to sanctions is important.

... He has to cope with the principal because the principal isn't going to allow him not to cope with him. And it depends

> upon how he does it. It could be informally assumed that he's tying himself in with institutional power.
>
> ... I think historically all of this for SCE has been the role of the principal and he's now become an administrator and he doesn't have time to worry about teacher training so that you're really defining a new job or a new role for principals which were their old jobs. You know, how do you help teachers teach better?
>
> ... It strikes me that one simplification of entry is to give the role a preliminary job. The first task of the person in this role is to study the school--not to intervene, not to train teachers, not to do anything but just learn about what's going on in the school. After he's learned about what's going on in the school, then begin collaboratively with the administrators to make decisions about what might be the thing to happen next in modifying or adding roles in the schools.
>
> ... What's so dynamic to cause teachers to change?
>
> ... You were suggesting before an organizational development consultant, almost. That is, he studies the whole system and finds out where the functions are being performed and where they're not and builds a strategy to introduce them. And those skills would require us to have a more superior person than just the one who runs the small group.
>
> ... We're talking about a guy now who's an organization development man who also has group skills.
>
> ... But to think to train a person to take the role we've been talking about--the SCE role--and also train him to do the organizational analysis is probably too much to ask.

As the consultants explored and identified problem areas during this initial session, these topics (see Figure 1) evolved on newsprint as a basic agenda for further discussion.

1. *Who does it? Consider:*
    - *Function*
    - *Role*
    - *Status*
2. *The entry problem*
3. *How is it done?*
4. *Institutionalization*
5. *Accountability*
6. *Training and internship experiences for SCE*
7. *Client selection*
8. *Org. diagnosis*

Figure 1 Agenda Generated by Discussion during Session One

SESSION TWO

Training the SCE

> ... I had a sort of assumption that the SCEs would be reading all these papers and that would be the bulk of their training. But that's got to be wrong. Because, you know, knowledge does not lead to action.
>
> ... Actually, I think many of the aspects of this model could be used by us this coming summer. It's perfect. We have about 30 or 40 people who would like to have, I'm sure, the competencies that you're talking about here. It would be a beautiful model for us.
>
> ... There are great advantages in having a stable institute of some kind to which people come for training rather than formal passing of the word--for a lot of reasons only to mention prestige and increasing credibility.
>
> ... I don't know what the research (if there has been any) is. You know, teach ten and those ten teach ten. It appeals to me economically. But does it really work? What happens after about four or five intervening?

... You might have to have a refueling operation like Joel's suggestion where a certain group of people continuously come back to an established place. But you could have levels of SCEs: you could have some seniors and some juniors and maybe the seniors could be out in the field doing something.

The Role of the SCE in the School

... There's a difference between saying somebody in each school already exists who could fulfill this function and saying we can reshuffle the roles already in each school system and get them to fulfill the functions.

... It seems to me that there are two clusters of variables. One could be a personality set and the other would be a status or social position variable.

... I think if you were to select someone from the central office it's preferable to go to a staff person rather than a line person to avoid, to some extent, the evaluative. (Generally, staff people have a less parochial view of the system but line persons usually stuck in at one point.)

... If at the system level, I'd prefer a staff person; at the building level some teachers, not the principal. And maybe those teachers have a kind of rotating deal where they're in the role for part of the time but not all of the time. Whereas at the system level you might have some people who actually are in it all the time.

... These SCEs are getting refueled into some kind of seminar of their own in which some of the same principles are being employed. So that they're stating their behavioral objectives with their seminar groups and exploring their own adequacies and inadequacies as leaders.

... Someone said that even though one attended the training session and he goes into his school, he doesn't necessarily act according to the training; but this way the expectation and the follow-up by checking would increase perhaps the probability of getting it into practice.

... One function of a central office could be the clearing house of performance data.

... What we're now thinking of doing is making another institution equally vast and concurrent. You know--not just equally populace but it's just as big and it's. . . Equally prestigious, more prestigious. I think that's the key variable.

... The SCE was not viewed necessarily as an institutional representative. I thought of him as a counter-institutional force inside an institution--not counter-institutional but para-institutional or whatever.

... Part of my idea of refueling too involves the assumption that knowledge is continuously being produced by guys like us, for instance, who find out more about what teacher questioning means or what have you. And the problem-solving that the SCE is involved in then should be more and more sophisticated so that those kinds of theories and research data are taken into consideration in the process. So the refueling is a kind of continuous education for him.

Diffusion Strategies for Program I

... It might be well to try to establish six to ten schools of education throughout the country that would be willing to use this kind of formula for training this kind of a person. I think many of the ideas in these papers fit current parts of programs. It's overcoming the old guard that's difficult in schools of education.

... Certainly if we started doing this, wouldn't we pick up on a school system and just try to do it there first?

... Could CERLI here be the lever for creating new kinds of training experiences in existing education operations?

... I think that CERLI has procedures that should be adopted by people now who need such procedures and are willing to pay for them.

... It seems to me like a bunch of people who decided they want to do this could get together in the summer and have the training session until September and then go to their jobs in the academic year. In other words, a summer job for them but also they would set up subcontracting arrangements for data collection and analysis at the end. They would be maybe ¼ time all during the year on this.

... And so the alternative is to set up a completely independent corporation which provides these services.

... The thing that strikes me for the moment is get some aspiring, ambitious young politician to decide he's going to introduce a bill that would create a set of funds specifically for the training of Specialists in Continuing Education.

... Let's let the teacher define her goals. Did we say it mattered what her goals were? No. We said they have to be behavioral, objective. Just let her define them. I don't see why the program has to be in a particular context.

Entry Strategies

... I was thinking of at least three possibilities: a building level person, like a team leader or department head; a school district person like a school psychologist; and then CERLI or something else that trains on a summer-to-summer basis or a university that trains on some basis.

... And then there might be different levels of sophistication for those performing the roles. The helping teacher who's playing this role may come one summer to get some skills and then come back another summer presumably to get others.

... If you call it an assistant principal for education it makes it easier for a school system to understand than if you call it something that begins to sound like a quasi-therapist.

... One thing that's occurring in California: the preservice and the inservice education lines are breaking fast. Legislation is now permitting school districts to train teachers. They're getting into preservice.

... Well you take the concept of McLuhan that the medium is the message. Quite often the subject matter consultant interacts with people in a way that's incongruent with the teaching style he wants.

... The whole thing is designed to be generalized, the whole concept.

... Well, at the point of implementation and action, it may take different forms. It will put on different cloaks. I mean if you're intervening at the secondary level it may be better strategy to go the subject matter route for awhile.

... We are wondering if it would not make sense in the next two years to apply Program I in a single setting.

... The racial problem will be different, will tend to make the entry thing harder. Not entry in the sense of getting into the school system but the initial status will be harder.

... We thought of community leaders as being one target group for SCEs to work with; student leaders, both black and white, teachers. We've thought of broadening the program somewhat in terms of target groups.

... His effects should manifest themselves in the classroom with the pupils where he's working more than in the school and the community.

... There's nothing in the SCE program that requires you to measure your success by only what happens in the classroom. It also could be measured by community reactions, like newspaper clippings.

... We have to be very careful, if you're talking about a year project not to guarantee any sort of outcomes in the community or to reduce unrest and all that.

... It makes it easy for the new superintendent to justify a staff training project. He's just absolutely going to have to do it and the community understands why.

... I'm wondering how the teachers--let's say in the elementary schools--stand on team teaching, building teams of teachers. Because here's a vehicle if they want to move in that direction.

... When the SCE walks out the door at the end of six weeks he has to recognize the difference between an activity and an outcome. He has to be able to collect evidence for a range of objectives. He has to recognize the difference between an observation and an inference. He's got to have some kind of a way of collecting the data, the observations. I think those things could be done realistically in six weeks and then we could get them to master it.

... Wouldn't one of the prime goals of the SCE be to be able to show teachers that teaching is rewarding, that they're not there to put in their time until the end of the month?

... Have other people here had my experience of sending bright and happy girls off to teach and meeting them at the end of the year, extraordinarily discouraged and upset with the outcome? Then either giving up and dropping out of the system for the better one or giving in and marking time. And if this is a general rule then I think that the prime goal of the SCE is to find a way to not let that happen. The easiest group to work with is the first year teacher and possibly you can also have a program that works with teachers who have already given in.

... Unless the teacher can succeed, she's going to be in conflict with the principal. And the only way to keep her out of conflict with the principal is to get her to succeed with the children.

... O.K. Perhaps one of our jobs is the thing of how you handle the principal during the time that the program is under way.

... Well--he has to recognize that he is going to introduce conflict into the institution; that the sheer act of being there, even if he performs his job with brilliance and perfection, still creates conflict.

... What if the teacher decides that group mural work is the key for her and the principal then says there's too much noise during group mural work; henceforth, you may not do it.

... Any principal--short of some superman--is hung up on power and conformity, and it's appearing in this position.

... You're bringing into interaction with the teachers another role. And this role is a supportive role. It's likely to get a positive response from the particular teachers with whom he's in interaction. And so now you have a situation where it's impossibile for the SCE then to become a big buddy with the principal because he'll lose those teachers if he does.

... Now if the principal is there, then there's some reticence on the part of certain teachers. But that can be handled.

Program Goals

... Is it possible in six weeks to change ones habits of operating with learners? Can you really get him to take responsibility that this failure is something that he is doing?

... Does he have a pre-determined expectation that the teacher will be a problem-solver?

... We could have two kinds of objectives: one that we will take full responsibility for reaching.

... Then goals for the SCE which we don't.

... I want to signal my surprise at finding out that the SCE is going to come there with some idea of what the teachers should be doing, and I'm surprised at that because I thought the SCE was supposed to come in ready to help her achieve whatever she wanted to achieve.

... I guess I have in mind a group of process skills.

... There's a strategy problem in my mind. That is, how early I would tell a person that's a lousy goal; don't work on it. I think I'd go with him for a while on whatever goal he wanted to work on.

... One of the things they don't have is the idea that something should follow from instruction.

... What is the difference between SCE training and a teacher methods class they've already had in the university?

... What we thought we were going to do is try to make a new facility for getting the school system in whatever direction it's going, faster.

... If you try to take responsibility for the direction of the course, all the problems about entry are now multiplied. You've got to not only sell yourself as a service, you've got to sell the right idea about what the client should want.

... It strikes me that if he's going to be involved with a group of teachers for some period of time and he never tells them where he stands on the issues of importance to them, he could be a mess.

... The theory is that through these process skills, people are going to begin to change their content.

... Whether or not he gets paid from the administration or from the teachers' union, I think he ought to view the teachers as his clients who are paying him. I think he ought to view those teachers as the people who hired him to help them.

... Does CERLI have a commitment to introduce new goals within the school system?

... The prime social need is not for CERLI. The prime social need is certain kinds of changes in the school.

... You could have a process goal, namely, a way of working in schools that might in turn produce some substantive goals.

... I understood the SCE program to be purely addressed to that third kind of goal: how are we going to facilitate whatever kind of new goal we talk about?

SESSION THREE

Evaluations and Recommendations

... I thought of the SCE as a mechanic, but other people view him as a torch carrier.

... If you're selling a mechanic to somebody, you have one kind of pitch; and if you're selling a torch carrier you've got a very different kind of pitch and you've got a very different kind of entry problem.

... Unless you see yourself as some sort of improver, you're not useful.

... When one professional practitioner is required to subject the interaction between him and his client to observation by another professional practitioner, a high level of tension ensues. And underlying that high level of tension is that it's very hard for one practitioner to observe another practitioner and not make value judgments about what's going on. So to say that we're going to go into this thing value-free, I think everybody pretty well agrees that's not going to happen. Now then the question is how are you going to manage those tensions? One way to manage them is to start out by making some rather vague, abstract objectives that you couldn't measure if you had to, just to reassure everybody that we've all got good intentions.

... If you're going to ask an active teacher to say: I'm going to commit myself to behave in this fashion, I believe I'll get these results, she's taking certain risks. She's taking a chance that she's going to be proven wrong. It seems to me that the SCE ought to be able to take the same risks. He ought to make predictions about what kind of results he's going to get, too, and then cope with them the same way he's asking her to cope with them.

... The longer I listen, the more I'm inclined toward the mechanical for this guy. The person who can be a coordinator, a facilitator, an expeditor, a reinforcer -- maybe that's the kind of guy that'll succeed. Maybe that's all we can really expect.

... I think that the project should limit its objectives and aspirations and make itself accountable for when it has achieved them. If we include in our goal package anything like improving education, we'll never be accountable.

... The more useful and observable the statement of the objectives gets, the more measurable the objectives are, the more threatening they get to be, too, and that's what tends to push them into triviality and specificity.

... How could we establish a credibility or the expertise or the legitimate status of this person in the minds of the teachers who are receiving their help? If indeed it is a person who, let's say, is drawn from the local school, there are issues.

... The best format to approach an institution is with some institutional identity of your own. One is the office of education; another is a university of some kind, and likely other possibilities will occur to people. Listeners accept pretty much on good faith people's credentials, but they're looking for some kind of credentials.

... Well, you can lock it in as one kind of master's program.

... Ultimately, isn't there one of two posibilities? Either this kind of a program becomes part of a package deal set up by an independent corporation or it becomes assimilated into general educational training.

... How about a jazzier title to get it going, instead of SCE?

... More of the innovative schools are moving more deeply into teacher training, pre- and inservice. They just refuse to rely on conventional people that are coming out of most of the existing teacher training programs.

... I still think that we find ourselves hung up on the entry problem.

... If this kind of service really should turn out to be helpful, it may be that its diffusion would be easier than you think.

... In Gage's study on feedback, pupils would monitor teacher performance and then those would be sent in and the teacher would get the results. That was the most powerful kind of feedback for producing teacher change. And it might be worth exploring, I mean the idea that you build into this system student participation in the confrontation.

... Using the SCE in a linking role between students and teachers is a powerful notion.

INTERVENTION STRATEGIES

By Roy Lewicki and Albert L. Furbay

INTERVENTION STRATEGIES

By

Roy J. Lewicki and Albert L. Furbay

The SCE seminar can potentially satisfy much more than the subsistence needs of teachers. It may indeed meet their needs for personal and professional growth and thus provide a self-actualizing experience. It can be the means of infusing new blood into an organization and is capable of expanding and diffusing the seminar's influence throughout the school.

As a problem-centered activity, the seminar may begin to transform a hierarchical type of school into a problem-solving model of organization. Conceivably new power bases might evolve around people with resources, and therefore encourage a new emphasis on the use of resources and expertise. It would appear that such a program is consonant with what ideal educational institutions should be.

The seminar's success to a great extent depends upon a stable relationship with the supporting parent organization. It is important to understand this dual reward structure. Rewards for participants are derived in part from the larger system and in part from the seminar itself. Seminars which are newly formed or about to break up have limited influence upon members, and larger system reward structures will be more responsible for sustaining the program. Therefore, the SCE must identify those aspects of the organization which support and reward its teachers.

With respect to the organization in which he serves, the SCE has at least the following objectives: to clarify his own role and function in the organization; to establish vital links between SCE, teachers and seminars, learners, school, and community; to organize a program of self-assessment seminars and recruit participants; to seek institutional rewards for the program and participants; and to promote organizational change and renewal. In order to carry out these institutional objectives, an SCE needs expertise in the following areas:

1. Elementary principles of organizational psychology, particularly educational organizations.

2. Effects of organizational rewards and restraints on performance -- individual and organizational theories of motivation, job performance, and career development.

3. Processes of problem-solving and decision-making.

4. Research skills and techniques of data analysis (relevant to his role as helper rather than institutional spy).

5. Tools for understanding and identifying organizational problems (signs of organizational pathology).

Characteristics of the Educational Institution

The culture of an organization, the role one's superior takes, and the norms and consequences of innovation influence the effects of training. Studies show that industrial supervisors who attend seminars to learn new behavior often return to the company only to find that the system does not support such new behavior. Consequently the supervisor ultimately reverts to his former behavior. The SCE's situation is comparable. He cannot afford to ignore institutional counter-pressures; in the seminar he must openly and candidly discuss the consequences of polarized influences and pressures in his school system.

It is important to distinguish between the formal and the informal organization. The "formal" organization is the blueprint of organizational structure and functioning. It is the set of interlocking roles and job descriptions that exist apart from the people filling these positions. An organization's formal structure dictates the official flow of authority and information. Frequently an organizational chart is used to portray the location and direction of power and communication, as well as the position of various groups in the organization. The formal structure reflects the assignment of responsibilities for communication and decisions.

The "informal" organization takes the people into account; interpersonal·interaction, human motivation, career development, and morale are some of the prominent characteristics. The Hawthorne studies demonstrated the existence and power of the informal organization. The seminar probably contributes more directly to the informal organization of a school and will succeed or fail in terms of this relationship. Therefore, it is important for the SCE to know how the informal and formal organizations match or differ in his school.

There are at least three ways to look at formal organizational structure. First, the "linking-pin" structure (Likert) represents an organization as a set of interlocking decision-making bodies rather than a strict hierarchy. Communication is group-to-group rather than individual-to-individual. Decision-making bodies may be represented visually as triangles. Each person belongs to two groups: one below him and one with his peers and superior. Link pins have interaction, influence, and voting power in more than one group. By carrying information from the lower group to the higher, the link catalyzes both upward and downward flow of information.

Second, the "problem-centered" structure (Bennis) is composed of interlocking groups, oriented to solving organizational problems. They may be visualized as a series of overlapping circles. Problem solving and goal achievement govern the structure and function of groups. Power is determined by expertise and problem-centered competence rather than by status position in the organization. Within an institution such organizations may be temporary or informal as well as formally constituted. For example, curriculum committees and task forces are problem-centered groups functioning in typical hierarchical schools. It would appear that the SCE promotes this type of organization in the seminar.

Third, most schools are organized in a "hierarchical" structure (Weber). Communication and influence attempts are primarily downward and one-way. Upward communication is designed to make people look favorable and to hide dissatisfactions or mistakes. Subordinates are isolated and treated as individuals. Privileged communication and favoritism are common. Such an organization encourages conformity and a low level of risk-taking and innovation. Subordinates have low commitment to the organization's growth and make a low investment of effort. Strong informal groups, with norms that run contrary to the norms of the formal organization (e.g. how to "beat the system"), develop at the lowest levels.

Hierarchy militates against involvement in seminars. Because seminars often cut across the communication structure of hierarchies, they do not appear to be a legitimate activity on the formal organizational chart. The reward systems and informal norms oppose upward sharing of sensitive information or the expression of feelings. Hence it is possible for the SCE to appear suspect in that he encourages the expression and discussion of issues that may be organizationally taboo. On the other hand, a strict focus on the teacher-learner relationship makes the seminar possible; organizational issues are of a secondary nature.

Hierarchical structure clearly can be seen in the bureacracy of a large urban school system, but it also is visible in smaller schools that for the most part are managed by a crisis-to-crisis form of administration. Frequently there is little innovation or self renewal. Lines of communication are poor. Teachers try to remain autonomous and show little concern about organizational functions. In these respects, the administration of schools is more typical of McGregor's theory X than of theory Y.

The structure of a school or any organization is built upon certain assumptions about the nature of man. McGregor's distinctions between theory X and theory Y point up these contrasting assumptions. Teachers and administrators appear to differ in these viewpoints and hence experience conflict.

Teachers tend to be oriented toward self-development, personal growth, and self-actualization. They often enter the teaching profession to seek personal, not merely financial, reward. The opportunity for creativity, growth, and job enrichment appeals to them.

The principal occupies a position comparable to that of a plant manager in a larger corporation. As such he feels a strong need to motivate and control. He tries to keep up on every activity and insists on knowing all that is going on. Things must be rigidly structured, and lines of authority must be clearly drawn. Everybody deals with the principal. High value is placed on the maintenance of order. A good school is quiet, calm, and peaceful. Children are in the classrooms, preferably in their seats, not in the halls. No one is running around. Allowing teachers to experiment with new programs usually leads to more disruption than education.

It is interesting to observe that some teachers want administrators to respond to them in the manner of theory Y, but behave toward their students in the manner of theory X. No doubt there are extreme types of teachers: some are creative and others look upon teaching merely as a job. However, the existence of these extremes suggests that there may be a broad mid-range consisting of a great many teachers who share this inconsistency in their basic assumptions about people. Although they may be personally motivated at a higher level, their behavior toward learners may be modeled after their own process of education or the principal's behavior toward them. When the principal reinforces theory X and the SCE reinforces theory Y, this conflict intensifies.

Disruptive forces threaten the stability of the school. Outside personnel (e.g. reading or speech specialists) coming into the school and taking children out of classes disrupt the order of things. These specialists often experience conflict with the principal who not only may not understand or accept their activity but perceive them to be incompetent. Conflict is compounded in that they may be responsible for standards throughout a district but are expected to check with the principal when they come into the school and to follow the routine of the building. To be sure, many principals will trust outside specialists and offer assistance; but many specialists have become successful only by putting their jobs on the line in terms of the way they feel things should be done. The degree to which a principal will regard a seminar as a disruptive force probably will depend upon his estimate of the activity's worth. If he views the seminar as useless or currently unnecessary, the SCE may pose a threat.

Often motivated by crises, principals use an anxiety-reduction model of operation. The decision to institute a program of self-assessment may resemble a personal decision to go into therapy. In a time of crisis, the need for help is recognized, but all time and money are directed toward coping with the crisis. When there is no crisis, the need is not recognized and no further action is taken until a new crisis arises. Perhaps the best time to approach an organization is when it is coming out of a crisis, still aware of the problem that created the crisis and likewise concerned about preventing similar future incidents. At this point, the implementation of a solution begins to ease the pressure but dissonance is not completely resolved.

The teacher's role is usually comparable to workers in a theory X organization. They lack power and are not involved in decision making. They have no access to resources that might help them to solve problems.

In the typical hierarchical school, teachers have little incentive to innovate. Innovations are disruptive in that they require time and money, pose schedule problems, and often bring outsiders into the school. There is seldom praise, special status, or reward for trying out new activities. Indeed an innovator may appear to be competing with the system and thus be regarded as a social deviant or be rejected. Furthermore, informal norms against "copying" or using the ideas of others develop. In innovative systems, however, teachers are encouraged to pick up ideas and try them for themselves.

For the most part, innovators in traditional schools are self-contained individuals. They are stimulated by reference groups outside the system, usually their professional disciplines. Communication is most frequent with innovators in other schools. Likewise, faculty wives and graduate students often are innovative teachers, using the university community as a reference group. These instances of innovative teaching in a school do not insure that the school system is innovative.

There are a number of sources of tension between the individual and an organization which possesses hierarchical structure. A teacher's link with his superiors and intermediates (principal, department head, etc.) is a potential source of trouble, especially if the superior does not support the teacher. Peer pressures create tension when a teacher is perceived to be socially deviant by trying new things that others have mistried or not tried at all. Social norms against innovation may develop from those who feel that teaching is merely a job and innovation not worth the effort. Fellow teachers also may suspect that one is trying to impress an innovative administrator. Institutional goals are frequently vague and not stated in operational terms. There may be a wide difference between the principal's and a teacher's perceptions of a "good learning environment." The informal organization often does not support the formal organization. Seminar activities may be easily misunderstood by the board and the community. Finally, the confidential discussion of sensitive materials may pose a threat to the principal.

Optimum Conditions for Successful Seminars

From the preceding discussion, it is clear that the seminars will often deal with two classes of problems: teacher-learner relationships in the classroom, and teacher-organizational relationships in the school system. Even though the seminar is initiated to work on the first set of relationships, at some point it will become necessary to work on the second set. The basic success of the seminars will be determined not only by improving teacher-learner relations, but also by creating a school environment that encourages and supports this improvement. A successful program of seminars depends upon having the right people, at the right time and place, in a climate most conducive to personal growth. Such a seminar can become an ideal reference group for purposes of social comparison.

Participants may be grouped in seminars in various ways. Heterogeneous grouping brings people together from different departments and with different interests; at first they may not know each other very well and even feel that they have little in common. The principal benefits are opening lines of communication among parts of the organization and finding elements of common concern to all participants. On the other hand, seminars may be organized by department (English, mathematics, etc.), grade level, or by teams in modular scheduling. Homogeneous grouping not only develops the openness and trust of the helping relationship but also strengthens a given organization unit. However, if there is competition for leadership or overlapping in roles between the SCE and the department head, friction could result.

Who should be selected as participants, especially in the first seminars to be scheduled in a district? The most innovative teachers appear to be those who have been on the job four to five years. They have their feet on the ground but are not set in their ways. They are easy to work with and do not hesitate to take risks. The SCE will probably find it easiest to work with this group of teachers. He immediately can build on their own motivations for growth and then use them as a core for future expansion of the program.

New teachers are concerned primarily with becoming acclimated to the school. Certainly they do not have to unlearn past behaviors, but it is probably too early for them to benefit from a full seminar process. Usually they have had little or no teaching experience and cannot identify perennial problems in their teaching. They may not be able to derive the full potential from the identification of ideal-actual discrepancies. On the other hand, the SCE may make some preliminary inputs to new teachers regarding what to look for in their own performance, how to handle problems that arise, etc. Even though the SCE may not provide the full seminar treatment, he should help them to become sensitive to the kinds of things that they might like to work on later.

Sometimes newer and older teachers are grouped in a seminar. This would probably be true if the SCE works with a single department. In this situation, the new teacher needs to be brought in, not left out in the nature of the social comparison process that takes place in the seminar. Older teachers should not be allowed to minimize the importance of problems raised by newer teachers. In short, all participants need equal air time.

Student teachers appear to be highly idealistic and strongly receptive to the SCE's approach to supervision. However, the student teacher has very little autonomy compared to the full time teacher. The student teaching experience may not be long enough nor intense enough to make the seminar process fully applicable. Yet preservice education can effectively sensitize students to the process of self-assessment and provide some experience in seminars. In this situation, the SCE may be satisfied with a level of analysis that is more superficial and less sophisticated than he would expect from experienced teachers.

Should a principal or department head attend a seminar along with teachers under his supervision? Two strategies may be followed. The SCE may work with teachers alone or with teachers plus supervisors. The latter is desirable, especially if the emphasis is upon organizational development. The weakness lies in the fact that supervisors may gain access to information about teacher performance that could be used against a teacher later on. Unless the right atmosphere is created, a candid discussion of organizational hindrances might be prevented. Organizational development is probably secondary to the improvement of teaching except when the group's needs and the SCE's competencies clearly warrant the opposite. Organizational development may come more naturally as a later stage. After several teachers have been through seminars, it may then be feasible to involve principals and teachers together. When they are able to deal comfortably and effectively with interpersonal or organizational problems, principals and teachers might be able to work together productively.

When the primary concern is with classroom performance (the teacher-learner relationship), the SCE will probably prefer to work with teachers alone. Principals should be encouraged to understand the process by participating in a group of principals or by remaining in consultation with the SCE. He may in fact come into the seminar at specific times when his presence is relevant. Then the nature of his involvement should be determined by the participating teachers and the SCE.

When and where should seminars be held? There are at least three alternatives: during working hours, after school, or during a special summer program. Meeting after hours offers more benefits; the gain is greater than the loss.

Released time during the day may be hard to justify and obtain. Providing substitute teachers would double the cost and inconvenience the administration. The seminar may not be comparable with industrial training programs in that much of the teacher's job is not confined to specific hours, and after-hours school activities are more commonly accepted. If seminars meet after school, participants may be fewer in number but more serious and committed. Accountability to the administration for the use of the time is less formal.

A summer program could be organized either on a regional or a district-wide basis. The types of programs currently being funded by EPDA may be an appropriate model. This setting encourages more involvement and commitment by participants and may be an effective early strategy in developing interest. In order to be effective, a summer program must provide for certain things: teams of participants with some teachers and at least one mid-level supervisor (development chairman or principal) from each school, children for regular classes or at least for micro-teaching, and commitment to follow up educational systems which send teams and want to begin a regular program in their own organization.

Seminars move from self-development to evaluation when they generate outputs that affect personnel matters. Some systems (e.g. the Department of Speech at Western Michigan University) have programs of teacher evaluation and want to add elements of self-development; others (e.g. Newport-Mesa School District in California) conduct seminars for self-development and now want to use them for purposes of evaluation. An SCE must be prepared to deal with programs which try to mix personal development with evaluation.

If information is to be shared outside the seminar, teachers ought to know about it and principals should know that seminars are likely to be less effective. If the school imposes the comparison of one's ideal-actual self for purposes of evaluation, he probably will not provide typical or representative data about this teaching. Forced evaluation reduces the level of risk-taking and results in endless discussions about unimportant matters.

The key element is free choice, especially when evaluation is involved in the seminar. Members should be free to decide whether or not to participate and what information is to be shared or remain confidential. An evaluation design will be workable if teachers participate in creating the system, generating the data, and exercising control over the flow of information. In the Graduate School of Business at UCLA, faculty members volunteer to meet with a committee of other faculty to specify what data to collect about teaching performance. The committee then helps to collect the data and gives it to the professor. He in turn has the right to keep or to forward it to his chairman. The important element is that teachers agree on what information is relevant and how the information is to be collected. What is relevant for one teacher may not be relevant for a different teacher or at a different time.

The system must allow individual teachers to participate in designing their own evaluation system in the seminar. Furthermore, this must be done as an ongoing activity. A group should not necessarily establish criteria which will be applied uniformly to all its members, which will be used to judge another group, or which cannot be changed at a later time. Presumably the SCE will be able to contribute to the development and implementation of evaluation programs after he has gained considerable experience and high trustworthiness.

Closely related to the problem of evaluation is the use of judgmental or evaluative rather than descriptive feedback in the seminar. Judgmental feedback should be used only if the participant is clear about the difference, wants and requests it, and is equipped to deal with it. It must be accepted only as a perception, not an absolute. A teacher should be given the option to receive it privately or publicly, and also to determine what information is or is not to be shared. It seems unnecessary to encourage teachers to give evaluative feedback to one another; most need help in moving from judgmental to descriptive feedback.

Should the SCE program be restricted to implementing a specific innovation or curriculum (e.g. the year-round school, a specific program in mathematics or social studies, etc.)? It may seem to be an effective foot-in-the-door strategy to tie seminars to a specific innovation. However, the system may perceive the two programs to be inseparable and the seminar process not a generalizable skill. As an intervention strategy, this approach at best represents a second level of desirability.

Should seminars focus on existing or innovative goals? As a general policy, the SCE should push for the new only after the old is demonstrated to be unsatisfactory. It would be an added burden to initially sell a new set of goals. New goals can be introduced more effectively as solutions to perceived difficulties with old goals. In any case, free choice must be respected when a teacher wants to pursue old goals. He must be given the right to try some things and not others.

Specifications for the SCE Role

The SCE's role and status can be clarified in terms of his organizational relationships which in turn govern many aspects of training for role development. At the outset it must be observed that the SCE needs the proper climate to feel effective as an individual. At least four conditions are necessary for successful performance in his role:

1. Guaranteed privacy for information shared in seminars. It is essential that information about competencies and feelings about the administration and the community not be used against teachers at any time. This condition is necessary for any development of trust and openness within the group.

2. Open communication with all personnel in the organization. This freedom of movement is necessary to keep him in touch with all relevant aspects of his work. It should be observed, however, that this condition is in no way inconsistent with the first; he must keep confidences with all those with whom he communicates. Openness and trust do not necessarily mean that he tells everything he knows to everybody.

3. Relatively free autonomy to operate in the role, after he demonstrates his competence and has a working knowledge of the dynamics of the school system. The influence of the sponsor on the SCE's role behavior should decrease over time, commensurate with demonstrated competence.

4. Availability of resources to mediate difficulties as they arise. Both material and human resources may be supplied from a professional association of SCEs, a clearing house of information, academic institutions, etc.

The manner in which the SCE is attached to the school is important to his role. He should be attached to the central organization, rather than a peripheral unit; and he should occupy a staff position. In a line position, he would be caught in role conflicts which would not permit him to function adequately.

The SCE may be either in or out of the organization structure. Both ways have limitations, but each would work. In either way, he could be cut off if budget problems were to arise.

If the SCE is in the organization, he may become identified with crises and his activities diluted by additional duties or trouble shooting. He may even become the school district's process analyst.

A more serious difficulty would arise if a critical administrator were to compare the visible outputs to the system with the SCE's salary, particularly if this comparison is made early in the program or based on limited data. The SCE may feel compelled to produce visible results with learners in the classroom prematurely, and may be watched very closely by administrators.

It is possible for an SCE to be supported by external funding (e.g. Title III) and thus be outside the formal organization. This would maintain the free-floating condition that he needs, but he may be seen by the school system as less involved and committed than if he were a staff member of the local district.

In any case, it is important for the SCE to be attached to systems rather than to buildings, even if he initially works with only one building. In this way he can enjoy more of the conditions necessary to effective functioning. It is true that principals sometimes object to outsiders (from the district office) coming in and meddling with the system, but the SCE's role in information dissemination may overcome this objection.

Ideally, the SCE should be a full-time person who can maintain one consistent role in the organization, not confused with other things that are going on (e.g. counselling, teaching, etc.). This preserves his autonomous free-floating role. If it is necessary to take on other activities in order to fill his time, he should try to work in another building in the district or coordinate innovative activities, resources, etc.

If an SCE must serve part-time, his role as SCE should be delineated very clearly and separated from other roles that he plays. His public acts should demonstrate the uniqueness of his role as SCE when he is playing it. If he is a teacher, there could be rivalry among other teachers about the additional powers and freedoms he "enjoys" as an SCE. It must be clear when he's playing his second role and when the role of an SCE. He should not derive the benefits of being an SCE in his other job.

It is possible for an SCE to be shared by a number of school districts and thus work part-time in a single district. Indeed it may be more desirable for him to work a quarter or half-time at first, until the district sees evidence of success. The chief difficulty lies in the necessity for the SCE to constantly adapt to the nuances of each new organization. If he works for multiple districts on a time sharing basis, he should be based in some educational environment -- if not a school district, at least a central area (e.g. university or developmental center).

The potentially successful SCE will have had a relatively successful experience in teaching, be recruited out of local schools, and trained to go back to his school in the new role. It is possible that a new person would be more highly trained and committed to the role of SCE, and would not have the problems of adjusting to the new role in his district. On the other hand, the retraining of an existing person represents a substantial investment by the district and is therefore a step toward building commitment to the program. An outstanding participant in a previous seminar may be taken out of the district for training. Obviously this would be a second wave of development following the initial program. An existing person retrained as an SCE will be potentially more successful if he commands the respect of his fellow teachers and can adjust to the district's redefinition of his role.

It might be possible to rotate the role of SCE among the various participants in a seminar. In this way, members can take turns modeling the process of self-assessment and conducting the seminar. To be sure, the SCE does not need to carry the ball all the time. He may delegate various functions, but not the entire role. It is important for one person to remain as an SCE even though participants may take turns in structuring specific discussions. By definition, the SCE is seen as the ultimate resource and linkage to systems outside the seminar.

The role of SCE can best be played by a person who has had successful classroom experience. He will understand the real problems that teachers face, gain teachers' acceptance and avoid some defensiveness that could develop if he had not had this experience. The net effect is to increase his credibility in the seminar. At first, a program may need university-based personnel who do not have teaching experience at the same level. University teachers with general classroom experience are undoubtedly preferable to other university personnel. Later, others can be attracted and trained for the role.

"Quality Control" over role performance may be essential, especially in the early stages of a program. As in other types of training, it is possible for opportunists (who are neither highly trained nor competent) to seek to play the role. "Marginal" teachers are not likely to be successful as SCEs unless they have outstanding skills in handling groups, etc. Such people are probably rare. Quality Control includes screening participants for entrance to the program and an internship in the later stages of training. It will be essential to identify selection as well as performance criteria for functioning SCEs. Of course internship and follow-up training must be based on trust and must not violate the competent SCE's autonomy.

It seems desirable to establish SCEs on a regional basis, perhaps similar to the demonstration centers in the State of Illinois Gifted Children Program. A regional center may or may not be funded from outside the districts it serves. Its mission includes coordinating training programs for role development, handling publicity and disseminating materials, and demonstrating the program to various schools in an area. The opportunity for SCEs to mutually share experiences and resources is equally as important.

The training program for role development should emanate from:

1. Training center. CERLI may conduct its own training program for SCE or provide a liaison between centers running their own SCE training programs.

2. Professional association of SCEs. This association should have membership, one or more journals dealing with educational innovations, meetings, newsletters, conferences of SCEs, and other opportunities to talk with concerned people.

3. Clearing House for internships. Two types of internships should be considered. One is a single location where an SCE can observe, practice, and try out skills.

4. Resource dissemination. There should be a clearing house for consistent information about educational innovations at all levels. Mailing lists should enable this information to be transmitted to those working at different levels.

The SCE needs resources -- both material and human (personnel who have contacts with resources). Most resources are probably drawn from the university community. However, the clearing house perhaps should be a separate operation which is not involved with internal policies and budgets of the universities. Perhaps the clearing house could be a separate operation in a university city.

Association with other SCEs can generate necessary conceptual and emotional support. An SCE may be working in an outlying district or where there is little social support for what he is doing. Only the most insulated person can withstand the need to share support and encouragement. One approach is to form dyads of SCEs who occasionally meet together and perhaps work together as a team. In some ways it would be better for two SCEs to work together in two systems than for each to work alone in a single system. The important consideration is to design a mechanism for evaluation, feedback, help, and self-development for the SCE as well as for the teacher.

Actual components for a training program may be built into a sequence that takes no longer than a year. One might think that a doctoral program is desirable, but the program of instruction would not be equivalent to a doctorate nor would a person with a doctorate be content with the role of SCE unless attracted by a number of challenging opportunities. Furthermore a typical doctoral program does not include the applied skills that an SCE needs.

Training needs may be met in various ways. Some may be relegated to the selection criteria and treated as prerequisites. Others may be included in the specific program of instruction. From the standpoint of his organizational skills, the SCE should receive training in the following areas:

Social psychology (or social psychology of education).

T-Group experience.

Group techniques (e.g. role playing, problem diagnosis, brainstorming, etc.).

Strategies of organizational development and applied anthropology (techniques for understanding and changing educational cultures).

Research methodology and data collection.

Educational sociology (the problems, role, and functions of the teacher in society).

Elementary clinical psychology (dealing with the behavioral manifestations of anxiety and coping with defense mechanisms).

Specific element of Program I (behavioral objectives, micro-teaching, dynamics of giving feedback, etc.).

Training for the role of SCE may have to be partly academic, especially at the outset. It could be designed as the core of a Masters program, perhaps modeled after the MAT degree (core material, internship, evaluation and back-up resources, etc.). Academic material will become more valuable through the internship and evaluation experiences.

The Process of Intervention

It is assumed that the SCE will not wait for organizations to come to him for help, that there is a formal SCE training program, and that schools may be more or less aware of what the SCE does. Within these parameters the SCE might utilize the following steps as a guide for achieving organizational development and renewal:

1. Identify people in key positions of influence and get them involved and committed to instituting the system in an organization. The key point of entry is the middle of the system and involves the crucial

administrative and educational linking-pins. It is important to get to the right persons (principals and supervisors of curriculum or instruction), not just to enthusiastic persons. If the initial pressure is imposed from the top, the SCE might anticipate lack of commitment at the lower level, unwillingness to get involved, mistrust, suspicion of ulterior motives, etc. On the other hand, if pressure originates at the bottom of the system it may be hard to get good communication and influence upward, and top management is not likely to listen to recommendations from the bottom.

At first it may be easier to interest a "head of curriculum" in the program in terms of values and outcomes. A principal will likely be harder to reach and must be approached on logistical (cost, disruption of the school, etc.) as well as educational grounds.

Ideally actual training should begin at the top in an organization, but the first approaches should be made at the middle level. From the middle of the system it is wise to move as quickly as possible to top management.

Obviously an SCE cannot just walk into a school and "sell" his program. He must sense a felt need for change (e.g. when an organization has recently passed a crisis) and a dissatisfaction with current methods of change. For example, both teachers and principals are generally unhappy with current in-service programs, and the SCE might capitalize on this dissatisfaction.

The program could be explained or demonstrated at professional meetings attended by key people. Sometimes it is helpful to invite participants to attend a model program especially designed for them, or to observe a program operating in a nearby school. This first-hand experience can be gained also through institute days, micro-seminars, and summer institutes. Student teachers who are supervised by the SCE model may attract the attention of administrators who then become involved and consider ways to broaden the program to full-time teachers. A retreat setting is another possibility. COPED ran large demonstrations of its program with many representatives invited to attend. This provided opportunity to discuss the use of the program and to work out details of implementation in pilot school systems.

2. Conduct an organizational diagnosis. The SCE must discover what the organization is like and where the seminar can be used. He may accomplish this informally or he may utilize interviews and questionnaires. Data may be tabulated and presented to staff who are responsible for planning. A typical organizational diagnosis would focus on the following issues:

Formal structure of the school system.

Attitudes of administrators, teachers, students, and community toward each other (levels of trust, openness, etc.).

Perceived receptivity of administration to teachers' influence.

Perceived norms about innovation in the classroom.

Perceived support (both financial and moral) from other teachers and the administration for innovating.

Clear delineation of the decision-making process that resulted in hiring the SCE.

Commitment of the school district to fully executing the SCE program.

3. Collaboratively design and implement a plan for development. It may be helpful at this point to spell out an informal contract by stating what the SCE can and cannot do, together with what the district expects. At this meeting there should be a valid sharing of perceptions and expectations, and the system should be able to meet the man who will work with them as well as the concept.

The objective is to involve, as quickly as possible, all people who will be concerned with planning and implementing the project. This provides necessary input to the SCE but also tests organizational commitment to solving problems, operationalizing the program, implementing the program in the school, providing space and facilities, and financing the program. Even if the project receives outside funding, it is usually wise to get the organization to make some economic investment.

Early planning should include options for the district and the SCE. It is helpful to build into the design several evaluation check points so that everyone understands when to stop, look at progress, and decide whether or not to go on. This allows both parties to retain maximum personal choice.

4. Recruit the first group of seminar participants. The planning group should both seek volunteers and approach key participants who should be in the first program. Studies of the diffusion of agricultural innovations reveal that it is often unwise to rely on volunteers. Sometimes early volunteers are not respected by others. The stature of persons or departments involved in the first seminars will of course affect the image of the program. Volunteers must not be excluded. If a program is successful it will begin to spread.

After key, highly respected personnel (possibly including curriculum coordinators, master teachers, etc.) are identified, they should be approached preferably by the principal and SCE simultaneously. A second alternative is for only the SCE to approach the prospective participant. If only the principal makes the approach, the authoritative dimensions of his role may be misinterpreted and participants may feel forced to enroll.

5. Seek extrinsic inducements. The opportunity for self-development is an intrinsic inducement. However, there are other rewards which can be obtained for participants. Financial recognition per se does not strike at the appropriate motivations for participation. Other forms of recognition seem more consistent with the total program. Board credit is good inducement and easy to obtain. Academic credit would seem to be appropriate but may be difficult to arrange through necessary university channels. Arrangements for released time must be made if the seminar meets during the school day. If teacher aids are available, they may relieve the participant of some routine duties as partial compensation for time devoted to the seminar.

6. Keep sponsors informed of the progress of the program. The SCE must gain favorable publicity for the seminar and for the school. He may begin to contact other interested people, but it is most important to keep principals informed and involved. Middle-level personnel may simply permit the program to occur and the SCE must therefore seek ways to increase their involvement. He should try to help a principal to assess his own ambivalent situation and get him to decide what he needs to know in order to make a firm decision. He may need to read technical position papers or view a video tape or film of a seminar. The SCE may persuade high prestige persons to endorse the program or he even may invite a reluctant administrator to explain the program to a group in another community.

Perhaps one of the best ways to show that something has happened in the seminar is to collect data about changes in attitudes, innovations tried, and the achievement of learners (in both cognitive and affective domains). Obviously the group should agree on ground rules for data collection and reporting, and the SCE must have adequate research skills at his disposal. A continuous evaluation of the program, as it proceeds, not only demonstrates good faith but provides concrete data to support the value of the program.

7. Help participants cope with role changes. Sometimes participants begin to experiment with new behaviors that break down the predictable patterns of expectation in the classroom. This confusion develops into mistrust between teacher and learners who do not know how to cope with new behavior. Unless this perception is dealt with, it may yield evidence of the "failure" of the program. The best strategy requires openness with the class about the program's experimental nature. Here -- as in every stage of intervention -- the collaborative model must be utilized. The teacher and the class together can agree to try a new technique (rather than simply imposing an innovation upon the class). By collecting data and feedback during the class and involving the class in its own self evaluation, the teacher can reduce the discrepancy between the way he wants to be treated and the way he treats learners.

8. Use seminars as an advertising medium to expand the base of operation. Participants may effectively enlist, screen and select participants for future seminars. The use of dyads ("buddy" system) is a helpful way not only to link compatible participants but also to bring new persons into the program. Participants also may be used to explain the program to reporters, groups of parents or teachers and other interested parties.

All of the above steps assume success at each phase before proceeding to the next. Lack of success may be due to many factors other than the inadequacies of the change agent. Such factors might include unwillingness of the system to set aside time or facilities for the SCE program, unwillingness of the system to allow teachers free choice in their participation, unresolvable disagreements with key administrative personnel, poor timing of the intervention, etc. If systems are unwilling to demonstrate commitment, respect free choice, and help members generate valid information about themselves and the school system, then the SCE has every right to initiate steps that will terminate his relationship. He should express his dissatisfaction to his sponsors and the administration, explore the personal and system problems that might be causing this dissatisfaction, indicate his inability to function effectively under these conditions, and propose that the relationship be severed. In general, willingness by the administration to terminate the program is indicative of problems that would have proved insurmountable later on.

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